Colour Television **Chassis**

FM23 AC, FM24 AB, FM33 AA

Service
Service
Service

ServiceManual

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PHILIPS

1. Technical Specifications, Connections and Chassis Overview

Index of this chapter:
1. Technical Specifications
2. Connections
3. Chassis Overview

Note: Figures below can deviate slightly from the actual situation, due to the different set executions.

1.1 Technical Specifications

1.1.1 Picture

Display	: FHT plasma panel
Screen sizes	: 32-inch (82 cm)
	: 37-inch (94 cm)
	: 42-inch (107 cm)
Resolution (pixels)	: 852(*3)x1024 (32")
	: 1024(*3)x1024 (37")
	: 1024(*3)x1024 (42")
Contrast ratio	: 400 : 1
Light output	: 600 cd/m^2
Viewing angle	: 160 deg (H)
	: 160 deg (V)

1.1.2 Sound

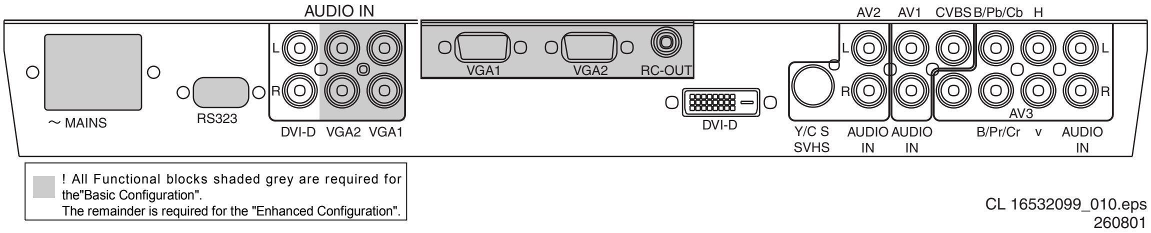
Maximum power	: 30 W_rms

1.1.3 Miscellaneous

Mains voltage	: 95 - 264 V
Mains frequency	: 50 / 60 Hz
Ambient temperature	: + 5 to + 40 deg. C
Maximum humidity	: 90 % R.H.
Power dissipation	: ≈ 280 W (32")
	: ≈ 300 W (37")
	: ≈ 380 W (42")
Standby Power dissipation	: < 3 W
Weight	: 24 kg (32-inch)
	: 30 kg (37-inch)
	: 36 kg (42-inch)
Dimens. (WxHxD) in mm	: 964x512x89 (32")
	: 1060x580x90 (37")
	: 1210x660x90 (42")

1.2 Connections

1.2.1 Rear Connections



▨ ! All Functional blocks shaded grey are required for the"Basic Configuration".
The remainder is required for the "Enhanced Configuration".

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Figure 1-1 Rear View

RS232

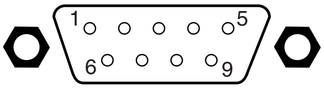


Figure 1-2 RS232 Connector

1 -			
2 - TXD	(UART)	○→
3 - RXD	(UART)	→○
4 - RL_ICN	(ICONN)	→○
5 -	Ground	⏚
6 - GL_ICN	(ICONN)	○→
7 - LD_ICN	(ICONN)	○→
8 - IR_TX	(ICONN)	○→
9 - IR_RX	(ICONN)	→○
10 -	Ground	⏚
11 -	Ground	⏚

Audio - In (DVI-D) *

- - Audio - L	0.5 V_rms / 1 kohm	→○◎
- - Audio - R	0.5 V_rms / 1 kohm	→○◎

Audio - In (VGA2)

- - Audio - L	0.5 V_rms / 1 kohm	→○◎
- - Audio - R	0.5 V_rms / 1 kohm	→○◎

Audio - In (VGA1)

- - Audio - L	0.5 V_rms / 1 kohm	→○◎
- - Audio - R	0.5 V_rms / 1 kohm	→○◎

VGA1 - In

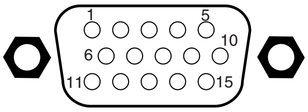


Figure 1-3 VGA Connector

1 - Red	0.7 V_pp / 75 ohm	→○
2 - Green	0.7 V_pp / 75 ohm	→○
3 - Blue	0.7 V_pp / 75 ohm	→○
4 - TXD		○→
5 -	Ground	⏚
6 - Red	Ground	⏚
7 - Green	Ground	⏚
8 - Blue	Ground	⏚
9 - RC		○→
10 -	Ground	⏚
11 - RXD		→○
12 - DDC_SDA		→○
13 - H-sync	0 - 5 V	→○
14 - V-sync	0 - 5 V	→○

15	- DDC_SCL		→○

VGA2 - Out

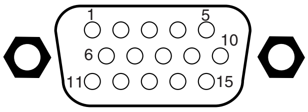


Figure 1-4 VGA Connector

1	- Red	(0.7 V_pp/75 ohm)	○→ →○
2	- Green	(0.7 V_pp/75 ohm)	○→ →○
3	- Blue	(0.7 V_pp/75 ohm)	○→ →○
4	- TXD		○→
5	-	Ground	⏚
6	- Red	Ground	⏚
7	- Green	Ground	⏚
8	- Blue	Ground	⏚
9	-		
10	-	Ground	⏚
11	- RXD		→○
12	- DDC_SDA		→○
13	- H-sync	0 - 5 V	○→ →○
14	- V-sync	0 - 5 V	○→ →○
15	- DDC_SCL		→○

RC - Out

-	- RC		○→◎

*DVI-D **

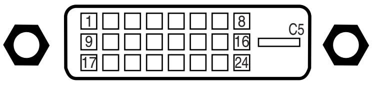


Figure 1-5 DVI-D Connector

1	- RX2-		→○
2	- RX2+		→○
3	-	Ground	⏚
4	-		
5	-		
6	- DDC-SCL		○→
7	- DDC-SDA		○→
8	-		
9	- RX1-		→○
10	- RX1+		→○
11	-	Ground	⏚
12	-		
13	-		
14	- 5V_STBY_SW		
15	-	Ground	⏚
16	- 5V_STBY_SW		
17	- RX0-		→○
18	- RX0+		→○
19	-	Ground	⏚
20	-		
21	-	Ground	⏚
22	-		
23	- RXC+		→○
24	- RXC-		→○
C5	-	Ground	⏚

*AV2: SVHS - In **

1	- Y	Ground	⏚
2	- C	Ground	⏚
3	- Y	1 V_pp / 75 ohm	→○
4	- C / 16:9	0.3 V_pp / 75 ohm	→○

*AV2: Audio - In **

-	- Audio - L	0.5 V_rms/10 kohm	→○◎
-	- Audio - R	0.5 V_rms/10 kohm	→○◎

*AV1: Audio/Video - In **

-	- CVBS	1 V_pp / 75 ohm	→○◎
-	- Audio - L	0.5 V_rms / 10 kohm	→○◎
-	- Audio - R	0.5 V_rms / 10 kohm	→○◎

*AV3: Audio/Video - In **

-	- G/Y/Y	0.7 V_pp / 75 ohm	→○◎
-	- B/Pb/Cb	0.7 V_pp / 75 ohm	→○◎
-	- R/Pr/Cr	0.7 V_pp / 75 ohm	→○◎
-	- H		→○◎
-	- V		→○◎
-	- Audio - L	0.5 V_rms / 10 kohm	→○◎
-	- Audio - R	0.5 V_rms / 10 kohm	→○◎

(*) Only available in the *Enhanced* version.

1.3 Chassis Overview

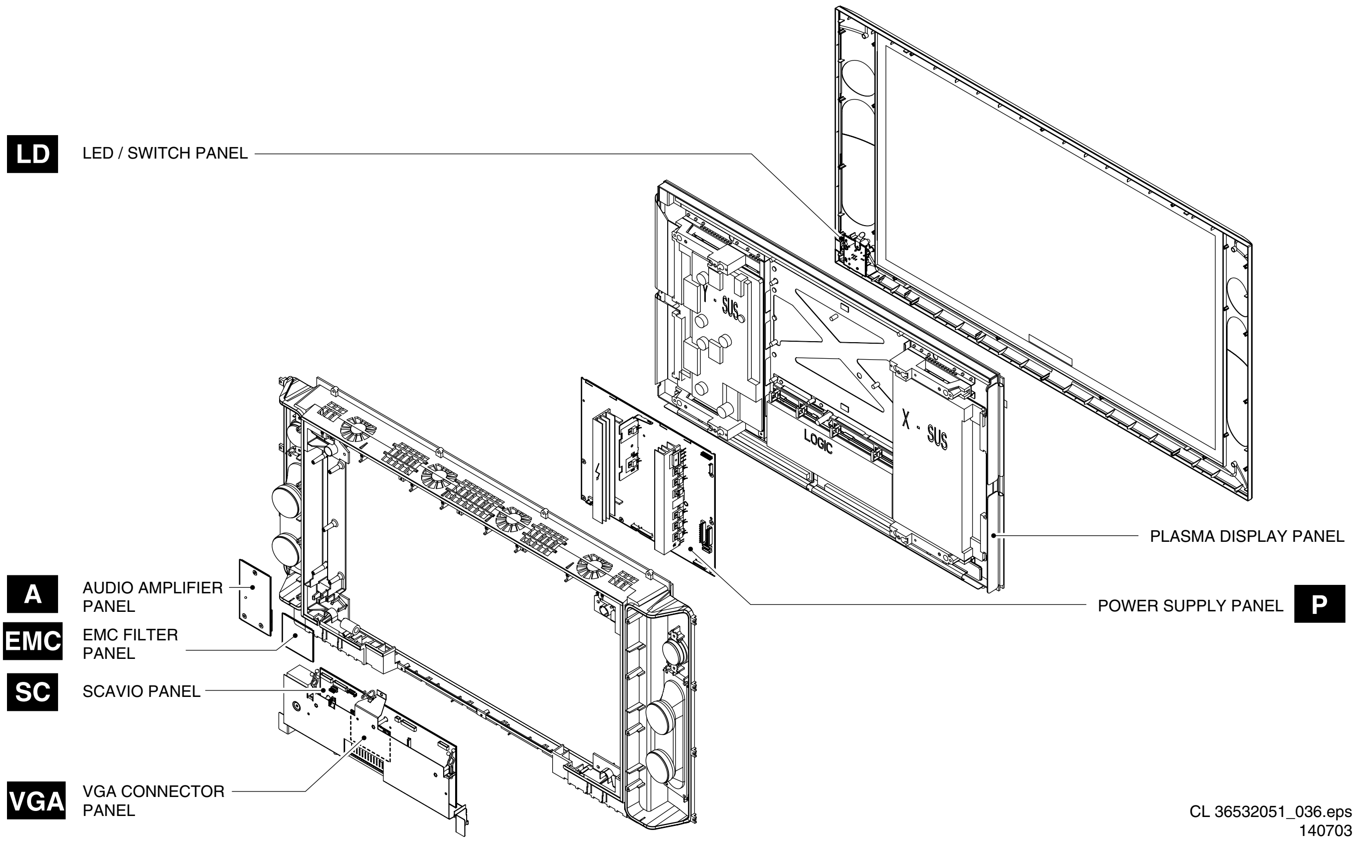

LD
LED / SWITCH PANEL
Y - SUS
LOGIC
X - SUS
PLASMA DISPLAY PANEL
A
AUDIO AMPLIFIER PANEL
POWER SUPPLY PANEL
P
EMC
EMC FILTER PANEL
SC
SCAVIO PANEL
VGA
VGA CONNECTOR PANEL
CL 36532051_036.eps
140703

Figure 1-6 PWB Location

2. Safety Instructions, Warnings, and Notes

2.1 Safety Instructions

Safety regulations require that **during** a repair:
- Connect the set to the mains via an isolation transformer (= 800 VA).
- Do not operate the monitor without the front glass plate. One function of this glass plate is to absorb IR radiation. Without this glass plate, the level of radiation could damage your eyes.
- Replace safety components, indicated by the symbol ⚠, only by components identical to the original ones.

Safety regulations require that **after** a repair, the set must be returned in its original condition. Pay, in particular, attention to the following points:
- Route the wire trees correctly and fix them with the mounted cable clamps.
- Check the insulation of the mains lead for external damage.
- Check the electrical DC resistance between the mains plug and the secondary side (only for sets which have a mains isolated power supply):
  1. Unplug the mains cord and connect a wire between the two pins of the mains plug.
  2. Set the mains switch to the "on" position (keep the mains cord unplugged!).
  3. Measure the resistance value between the pins of the mains plug and the metal shielding of the tuner or the aerial connection on the set. The reading should be between 4.5 Mohm and 12 Mohm.
  4. Switch "off" the set, and remove the wire between the two pins of the mains plug.
- Check the cabinet for defects, to avoid touching of any inner parts by the customer.

2.2 Warnings

- All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD ⚠). Careless handling during repair can reduce life drastically. Make sure that, during repair, you are connected with the same potential as the mass of the set by a wristband with resistance. Keep components and tools also at this same potential. Available ESD protection equipment:
  - Complete kit ESD3 (small tablemat, wristband, connection box, extension cable and earth cable) 4822 310 10671.
  - Wristband tester 4822 344 13999.
- Be careful during measurements in the high voltage section.
- Never replace modules or other components while the unit is switched "on".
- When you align the set, use plastic rather than metal tools. This will prevent any short circuits and the danger of a circuit becoming unstable.

2.3 Notes

- Clean the glass plate in front of the plasma display with a slightly humid cloth. If, due to circumstances, there is some dirt between the glass plate and the plasma display, this must be cleaned by a qualified service engineer (see chapter 4).
- Measure the direct voltages and oscillograms with regard to the chassis ground (⏚), or hot ground (⏚) as this is called.
- The direct voltages and oscillograms shown in the diagrams are indicative. Measure them in the Service Default Mode (see chapter 5).
- Where necessary, measure the voltages in the power supply section both in normal operation (⏽) and in standby (⏻). These values are indicated by means of the appropriate symbols.
- The semiconductors indicated in the circuit diagram and in the parts lists, are interchangeable per position with the semiconductors in the unit, irrespective of the type indication on these semiconductors.

2.3.1 Schematic Notes

- All resistor values are in ohms and the value multiplier is often used to indicate the decimal point location (e.g. 2K2 indicates 2.2 kohm).
- Resistor values with no multiplier may be indicated with either an "E" or an "R" (e.g. 220E or 220R indicates 220 ohm).
- All capacitor values are expressed in micro-farads (μ= x10^-6), Nano-Farads (n= x10^-9), or pico-farads (p= x10^-12).
- Capacitor values may also use the value multiplier as the decimal point indication (e.g. 2p2 indicates 2.2 pF).
- An "asterisk" (*) indicates component usage varies. Refer to the diversity tables for the correct values.
- The correct component values are listed in the Electrical Replacement Parts List. Therefore, always check this list when there is any doubt.

2.3.2 Rework on BGA (Ball Grid Array) ICs

General
Although (LF)BGA assembly yields are very high, there may still be a requirement for component rework. By rework, we mean the process of removing the component from the PWB and replacing it with a new component. If an (LF)BGA is removed from a PWB, the solder balls of the component are deformed drastically so the removed (LF)BGA has to be discarded.

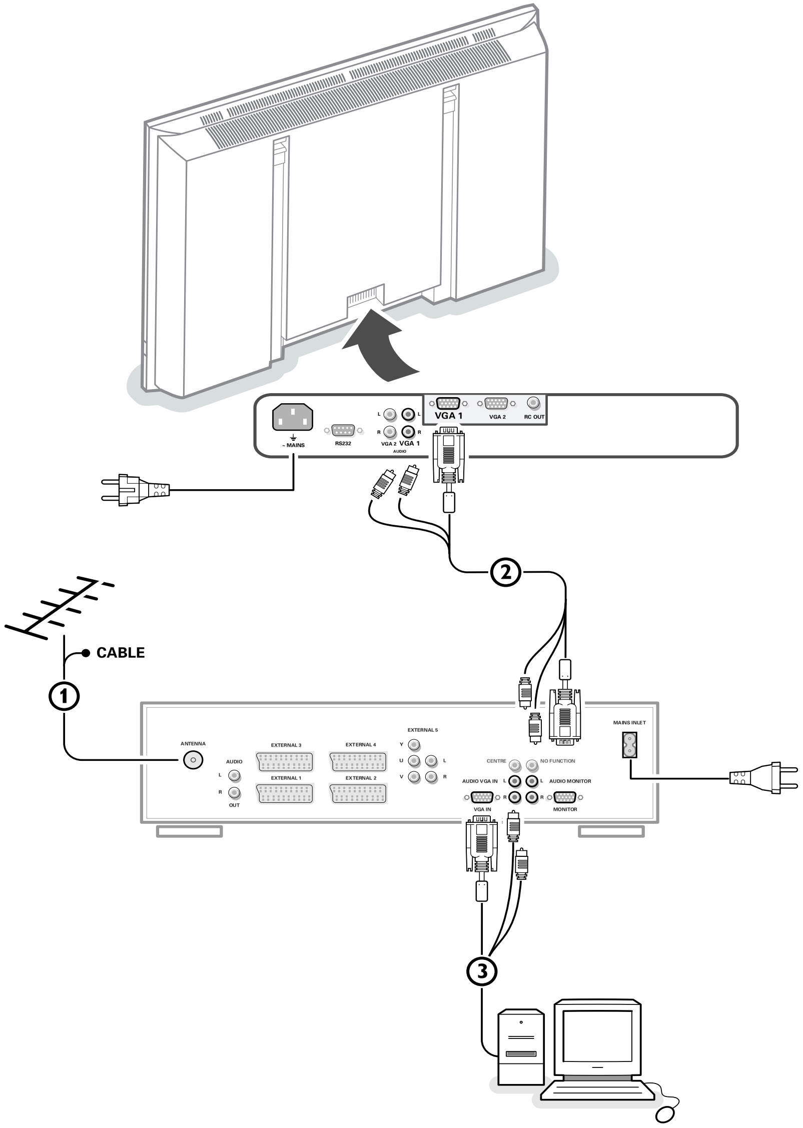
Device removal
As is the case with any component, it is essential when removing an (LF)BGA, that the board, tracks, solder lands, or surrounding components are not damaged. To remove an (LF)BGA, the board must be uniformly heated to a temperature close to the reflow soldering temperature. A uniform temperature reduces the chance of warping the PWB.
To do this, we recommend that the board is heated until it is certain that all the joints are molten. Then carefully pull the component off the board with a vacuum nozzle. For the appropriate temperature profiles, see the IC data sheet.

Area preparation
When the component has been removed, the vacant IC area must be cleaned before replacing the (LF)BGA.
Removing an IC often leaves varying amounts of solder on the mounting lands. This excessive solder can be removed with either a solder sucker or solder wick. The remaining flux can be removed with a brush and cleaning agent.
After the board is properly cleaned and inspected, apply flux on the solder lands and on the connection balls of the (LF)BGA.
Note: Do not apply solder paste, as this has shown to result in problems during re-soldering.

Device replacement
The last step in the repair process is to solder the new component on the board. Ideally, the (LF)BGA should be aligned under a microscope or magnifying glass. If this is not possible, try to align the (LF)BGA with any board markers.
To reflow the solder, apply a temperature profile according to the *IC data sheet*. So as not to damage neighbouring components, it may be necessary to reduce some temperatures and times.

3. Directions for Use

3.1 Basic



Unpacking and wall mounting instructions

For the unpacking instructions follow the illustrated steps printed on the packaging (outside and inside). For the wall mounting instructions follow the illustrated steps ❹ to ❻ printed on the separate leaflet.

Make sure that the wall mount is being fixed securely enough so that it meets safety standards. The weight of the monitor (excl. packaging) is about 24 kg (32”), 30 kg (37”) and 35,5 kg (42”).

Note: Stands are optional accessories. Consult your dealer.

Connect your electronic receiver box
See the separate supplied instruction manual with your receiver box.

Connect your computer

To the receiver box

See the illustration in the inside frontcover of this handbook.

❶ Connect one end of a VGA cable to the video card of the computer and the other end to the **VGA IN** connector at the rear side of the receiver box. Fix the connectors firmly with the screws on the plug.

❷ In case of a Multimedia computer, connect the audio cable to the audio outputs of your Multimedia computer and to the **AUDIO VGA R** (right) and **L** (left) inputs of the receiver box.

Directly to the monitor

❶ Connect one end of a VGA cable ① to the video card of the computer and the other end to the **VGA 1** connector at the rear side of the monitor. Fix the connectors firmly with the screws on the plug.

❷ In case of a Multimedia computer, connect the audio cable ② to the audio outputs of your Multimedia computer and to the **AUDIO VGA 1 R** (right) and **L** (left) inputs of the monitor.

Daisy chaining

The Loop Through facility makes it possible to make a daisy chain with a second monitor.

❸ Connect one end of another VGA cable to the **VGA 2** connector at the rear side of the monitor and the other end to the **VGA 1** connector of a second monitor.

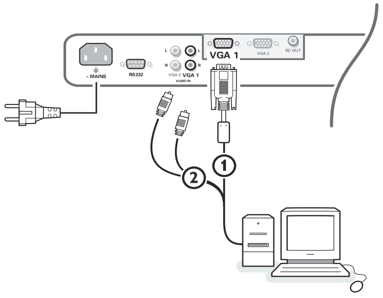
❹ In case of a Multimedia computer, also connect audio cables to the **AUDIO L** and **R** outputs of the original monitor and to the **AUDIO L** and **R** inputs of the second monitor.

The RC out jack next to the VGA 2 connector makes it possible to daisy chain remote control signals to other equipment. This output cannot be used to daisy chain a second monitor.

Serial I/O port RS232

The RS232 connector is only to be used with the monitor as stand alone.
This connector allows you to control the monitor via your PC (as a replacement of the remote control).

Note: This connector can also be used for dealer service tools.



Monitor Display modes

VGA	640x480	60, 72, 75, 85 Hz
Wide VGA	848x480	60 Hz
Wide VGA	852x480	60 Hz
MAC	640x480	66.67 Hz
MAC	832x624	74.55 Hz
MAC	1024x768	74.93 Hz
MAC	1152x870	75 Hz
SVGA	800x600	56, 60, 72, 75, 85 Hz
XGA	1024x768	60, 70, 75, 85 Hz
SXGA	1280x1024	60, 72 Hz

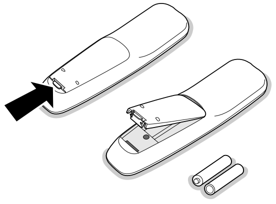
When a VGA computer is connected, the display selection is made automatically.

A message is displayed when the monitor does not support the connected VGA mode. Switch your computer to a correct display mode.

Operation

❶ **Insert the mains plug** supplied into the mains inlet at the back of the monitor and in the wall socket.
For safety, please, only use the supplied rim-earthed mains cord which has to be inserted in a grounded socket.

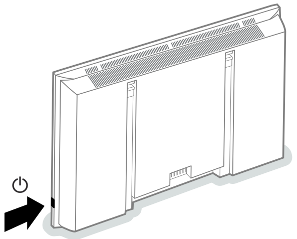
❷ **Remote control:** remove the cover of the battery compartment.
Insert the 2 batteries supplied (Type R6/AA-1.5V).


R6 / AA

The batteries supplied do not contain the heavy metals mercury and cadmium. Nevertheless in many countries batteries may not be disposed of with your household waste. Please check on how to dispose of batteries according to local regulations.

❸ Make sure that your electronic receiver box and/or PC are switched on and that your PC is in the correct display mode.

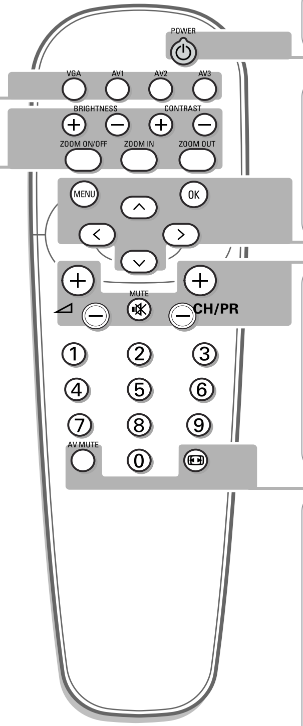
❹ **Switch the monitor on :** Press the on/off key ⏻ at the right side of the monitor.
A green indicator lights up and the screen comes on.



When the monitor does not receive a supported VGA signal and is not connected to a receiver box, the screen switches to standby and the red indicator lights up.

When you switch on your monitor **for the first time**, and the monitor is not connected to an electronic receiver box, the language menu automatically appears on the screen. The explanation appears in different languages one at a time.
Follow the instructions on screen to select the correct language or see Setup menu, Language, p. 5.

Use of the remote control



VGA to select your computer connected to the **VGA 1** connector

AV1, **AV2**, **AV3** no function

BRIGHTNESS +/-
to adjust the brightness level of the picture

CONTRAST +/-
to adjust the contrast level of the picture

ZOOM ON/OFF to activate/de-activate the zoom function. See p. 4.

ZOOM IN/OUT to adjust the zoom factor and to change the magnification of the picture when zoom is activated. See p. 4.

⏻ to switch to standby or on again

MENU to switch the menu on/off

cursor keys to select your choice and to alter a selected adjustment.

OK to activate your choice

◺ press - or + to adjust the volume

🔇 **Mute key**
Temporarily mute the sound or restore it

CH/PR Programme selection
To browse through the sources selected.

AV MUTE to temporarily mute the picture and the sound or restore it.
When activated a yellow indicator starts blinking in front of the monitor.

⊡ **Picture format**
See Picture 2 menu, p. 4.
Press the ⊡ key to switch between the different picture formats.

If your monitor no longer responds to the remote control, the batteries may be exhausted.

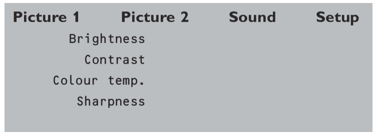
How to dispose of batteries ?

The batteries supplied do not contain the heavy metals mercury and cadmium. Nevertheless in many countries batteries may not be disposed of with your household waste. Please ensure you dispose of batteries according to local regulations.

End of life directives

Philips is paying a lot of attention to produce environmentally-friendly in green focal areas.
Your new monitor contains materials which can be recycled and reused.
At the end of its life specialised companies can dismantle the discarded monitor to concentrate the reusable materials and to minimise the amount of materials to be disposed of.
Please ensure you dispose of your old monitor according to local regulations.

Use of the menus and the menu system



❶ Press the **MENU** key on the remote control to summon the different menu headers.

❷ Press the cursor left/right to move the cursor horizontally through the menu headers.

❸ Press the cursor down to access the menu.
In case of a slider, move the cursor left/right to adjust.
In case of a list with options, move the cursor right to enter and use the cursor up/down to select an option.
Press the cursor left to leave the options list.

❹ Press the **MENU** key again to switch off the menu.

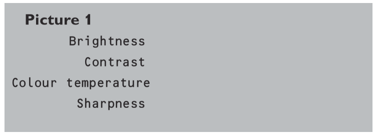
Note: Sometimes not all the menu items are visible on the screen.
Press the cursor down until all the items are displayed.

Only when the US English language has been selected (see Setup menu,
Language, p. 5), the menu items will be displayed with additional icons.

Operation

Press the **MENU** key on the remote control to summon the main menu.

Picture 1 menu



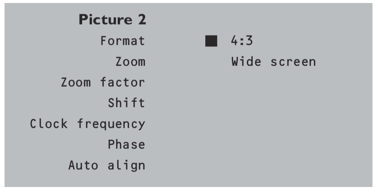
Brightness
This control allows you to adjust the brightness level of the picture.

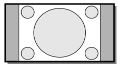
Contrast
This control allows you to adjust the contrast level of the picture.

Colour temperature
This control allows you to select the colour temperature of the picture.
Move the cursor up/down to make a selection.
Press the cursor left to return to the Picture 1 menu.

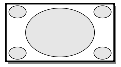
Sharpness
This control allows you to adjust the edge definition of a picture.

Picture 2 menu





4:3



Wide screen

In this menu you are allowed to adjust attributes which are relevant for the picture on the display, like format, zoom, size, etc.

Format
Select **Format** to summon a list of **available** display formats for showing images in the traditional 4:3 proportions.
Press the cursor up/down to select another display format: 4:3 or Wide screen.

Zoom
Select **Zoom On** to activate the zoom function.
You may also activate the zoom function with the **ZOOM ON/OFF** key on the remote control.
Press the cursor left/right, up/down to select which part of the screen will be zoomed.

Zoom factor
Select **Zoom factor** and press the cursor left/right to adjust the zoom factor and to change the magnification of the picture.
If zoom is not active, Zoom Off, changing the magnification factor will have no effect on the displayed picture.

Shift
This control allows you, when necessary, to move the picture in a horizontal or vertical way.

❶ Use the cursor left/right to adjust.

❷ Press the **OK** key when done.

Clock frequency

This control allows you, when necessary, to adjust the values of the clock frequency so that especially text can be displayed with an optimal overall sharpness.

Use the cursor left/right to adjust.

Phase

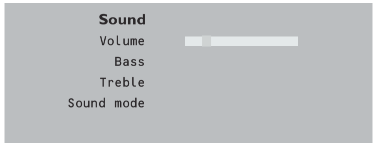
This control allows you, when necessary, to adjust the pixel phase of the picture to avoid picture interference.

Use the cursor left/right to adjust.

Auto align

This control allows you to automatically adjust the shift, the clock frequency and the phase in VGA mode.
Press **OK** to execute.

Sound menu



Volume
This control allows you to adjust the volume level.

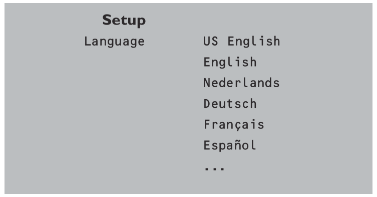
Bass
Bass attenuates or amplifies the low-frequency response of the sound of the loudspeakers.

Treble
Treble attenuates or amplifies the high-frequency response of the sound of the loudspeakers.

Sound mode
This control allows you to switch between mono and stereo sound.

Note: Bass, Treble and Sound mode will not be available when an electronic receiver
box is connected to the monitor and a VGA source is selected.

Setup menu



❶ Use the cursor down to select **Language**.

❷ Press the cursor right to enter the list of

selectable languages.

❸ Use the cursor up/down to scroll through the list and to bring up other languages which are not displayed on the screen at present.

Tips

Ambient temperature

Do not hang up the monitor above a central heating or other heating sources.

Care of the screen

Clean the anti-reflex coated flat glass screen with a slightly damp soft cloth. Do not use abrasives solvents as it can damage the glass surface of the screen.

Plasma Display characteristics

Caution: A video source (such as a video game, DVD, or video information channel) which shows a constant non-moving pattern on the screen, can cause damage to the screen. When your Flat-Monitor is continuously used with such a source, the pattern of the non-moving portion of the game (DVD, etc.) could leave an image permanently on the screen. When not in use, turn the video source **OFF**.
Regularly alternate the use of such video sources with normal viewing.
When switching over to another picture after having displayed the same still picture for a long time (many hours), it may happen that some parts from the previous picture will remain on screen due to a kind of memory effect. This ghost picture will disappear after some time. To avoid this effect change the pictures regularly or for PC use you can turn on a screen saver in your computer.
For video signals, Philips has built in an automatic shift of the picture every 5 minutes to avoid this effect and to prolong the life of the screen.
Very incidentally and after a longer period of unuse (approx. 1 year) the screen may display some strange colour deficiencies. This is quite normal for plasma displays and these effects will disappear after the set has been turned on for some time.
A plasma display consists of a huge amount of colour pixels. It is within industry standards that very few pixels (< 0.001%) may be defective, even for a new set. There is however no reason to doubt about the quality of the set.
The plasma display technology operates with rare gases which are being influenced by air pressure.

Up to an altitude of 2000 m above sea-level (local air pressure equal or above 800 hPa), the display is functioning fine. Operating the set at a higher altitude (lower air pressure), the picture becomes unstable and the picture performance is deteriorating. The plasma display might then also produce a humming sound. After bringing the set below 2000 m (local air pressure equal or above 800 hPa) it works fine again. Transportation has no influence.

Control of peripheral equipment

The infrared signals of the screen may influence the reception sensitivity of other peripherals.
Solution: replace the batteries of the remote control or change position of other equipment. E.g. keep away a wireless headphone from within a radius of 1.5 m.

No stable or not synchronised VGA picture

Check if you have selected the correct VGA mode in your PC.

No picture or no sound

Are the supplied cables connected properly? (The power cable to the display, the VGA cables, the audio cables,...)
Is your PC or receiver box switched on?
Do you see a black screen and the indicator on front of the monitor lights up green, this means that the display mode is not supported.
Switch your VGA source to a correct mode.

If your problem is not solved: Switch your monitor off and then on again.
Never attempt to repair a defective monitor yourself. Check with your dealer or call a video technician.

Transport

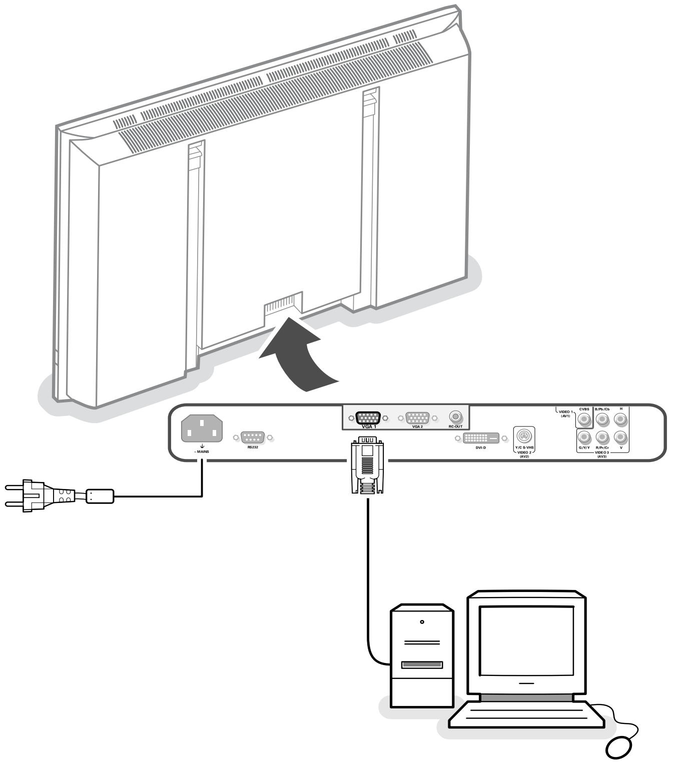
Keep the original packaging to transport the monitor if needed.

Miscellaneous

. Ambient temperature:
+ 5 ~ + 40°C
. Maximum operating altitude:
2000 m (min. air pressure 800 hPa)
. Mains: Auto Voltage ranging from 95V to 264V 50Hz/60Hz
. Power consumption:
around 280 W (32”),
300 W (37”), 380 W (42”)
. Standby consumption: < 2 W
. Weight (excl. packaging)
Display: 24 kg (32”),
30 kg (37”),
35,5 kg (42”)
. Dimensions (wxhxd):
Display:
96.4 x 51.2 x 8.9 cm (32”)
106 x 58 x 9 cm (37”)
121 x 66 x 9cm (42”)
. Wall mounting bracket included

Personal Notes:

3.2 Speakerless



Unpacking and wall mounting instructions

For the unpacking instructions follow the illustrated steps printed on the packaging (outside and inside). For the wall mounting instructions follow the illustrated steps ④ to ⑥ printed on the separate template.

Make sure that the wall mount is being fixed securely enough so that it meets safety standards. The weight of the monitor (excl. packaging) is about 35 kg.

Note: Stands are optional accessories. Consult your dealer.

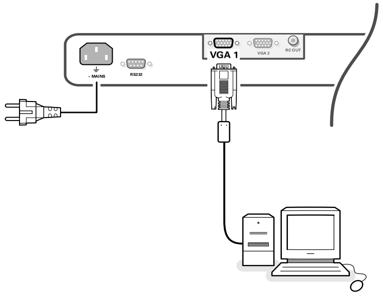
Connect your computer

Directly to the monitor

① Connect one end of a VGA cable to the video card of the computer and the other end to the **VGA 1** connector at the rear side of the monitor. Fix the connectors firmly with the screws on the plug.

② In case of a multimedia computer, connect the audio cable to the audio outputs of your multimedia computer and to the audio inputs of your external amplifier.

VGA 2: The video connector for VGA 2 can be programmed to become an input or an output via the Setup menu, see p. 6. The function of being input or output is determined by the used mode. If the monitor is used in video mode, the VGA 2 connector is VGA output. If the monitor is used in monitor mode, the connector is VGA input or output.



To an electronic receiver box

See the handbook of the receiver box.

① Connect one end of a VGA cable to the video card of the computer and the other end to the **PC/MAC IN** connector at the rear side of the receiver box. Fix the connectors firmly with the screws on the plug.

② In case of a Multimedia computer, connect the audio cable to the audio outputs of your Multimedia computer and to the **AUDIO IN R** and **L** inputs of the receiver box. For sound reproduction, connect your external amplifier to the receiver box.

Note: Only use the VGA cable supplied with the monitor.

Daisy chaining

The Loop Through facility makes it possible to make a daisy chain with a second monitor.

Connect one end of another VGA cable to the **VGA 2** connector at the rear side of the monitor and the other end to the **VGA 1** connector of a second monitor.

Note: The RC out jack next to the VGA 2 connector makes it possible to daisy chain remote control signals to other equipment. This output cannot be used to daisy chain a second monitor.

Computer Display modes

VGA	640x480	60, 72, 75, 85 Hz
Wide VGA	848x480	60 Hz
Wide VGA	852x480	60 Hz
MAC	640x480	66.67 Hz
MAC	832x624	74.55 Hz
MAC	1024x768	74.93 Hz
MAC	1152x870	75 Hz
SVGA	800x600	56, 60, 72, 75, 85 Hz
XGA	1024x768	60, 70, 75, 85 Hz
SXGA	1280x1024	60, 72 Hz (not with DVI-D-source)

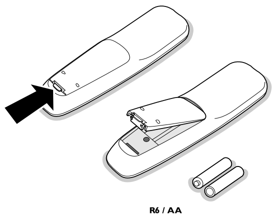
When a VGA computer is connected, the display selection is made automatically.

A message is displayed when the monitor does not support the connected VGA mode. Switch your computer to a correct display mode.

Operation

❶ **Insert the mains plug** supplied into the mains inlet at the back of the monitor and in the wall socket. Please, only use the supplied rim-earthed mains cord which has to be inserted in a grounded socket.

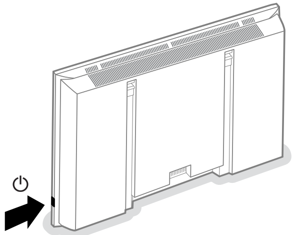
❷ Remote control: remove the cover of the battery compartment.
Insert the 2 batteries supplied (Type LR6/AA-1.5V).



The batteries supplied do not contain the heavy metals mercury and cadmium. Nevertheless in many countries batteries may not be disposed of with your household waste. Please check on how to dispose of batteries according to local regulations.

❸ Make sure that your receiver box and/or PC are switched on and that your PC is in the correct display mode.

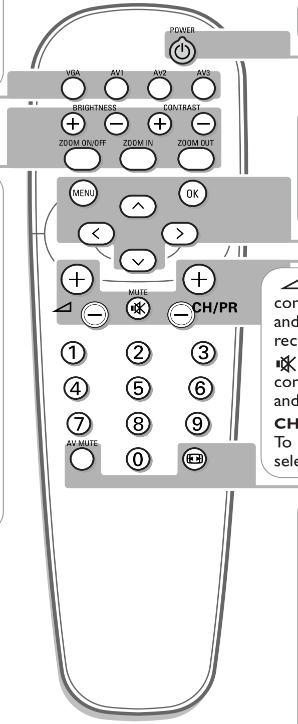
❹ **Switch the monitor on** : Press the power button ⏻ at the right side of the monitor. A green indicator lights up and the screen comes on.



When the monitor does not receive a supported VGA signal and is not connected to a receiver box the screen switches to standby and the red indicator lights up.

When you switch on your monitor for the first time, and the monitor is not connected to a receiver box, the menu language automatically appears on the screen. The explanation appears in different languages one at a time.
Follow the instructions on screen to select the correct language or see Setup menu, Language, p. 6.

Use of the remote control



VGA
press repeatedly to select your computer connected to the **VGA 1** or **2** connector or to the **DVI-D** connector.

AV1, AV2, AV3
press to select the peripherals connected to the connector indicated on the monitor.

BRIGHTNESS +/-
to adjust the brightness level of the picture

CONTRAST +/-
to adjust the contrast level of the picture

ZOOM ON/OFF
to activate/de-activate the zoom function.
See p. 5.

ZOOM IN/OUT
to adjust the zoom factor and to change the magnification of the picture when zoom is activated. See p. 5.

⏻ to switch to standby or on again

MENU to switch the menu on/off
cursor buttons to select your choice and to alter a selected adjustment.
OK to activate your choice

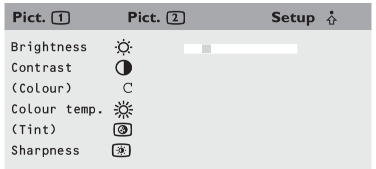
◿ no function (except when in combination with a receiver box and a Home Cinema audio receiver)
🔇 no function (except when in combination with a receiver box and a Home Cinema audio receiver)
CH/PR Program selection
To browse through the sources selected.

AV MUTE to mute the picture or restore it (if the monitor is used in monitor mode).
When activated a green indicator starts blinking in front of the monitor.

▣ **Picture format**
See Picture 2 menu, p. 5.
Press the ▣ key to switch between the different picture formats.

On screen information
When the monitor is used in the monitor mode, information about the active source (**AV1, AV2, AV3, VGA1, VGA2** or **DVI-D**) and the supported video, VGA or HD-format of the selected source is displayed on the screen together with the selected picture format and icons informing about AV mute.

Use of the menus and the menu system


Pict. 1 Pict. 2 Setup
Brightness
Contrast
(Colour)
Colour temp.
(Tint)
Sharpness

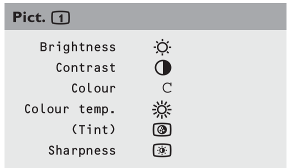
1. Press the **MENU** key on the remote control to summon the different menu headers.
2. Press the cursor left/right to move the cursor horizontally through the menu headers.
3. Press the cursor down to access the menu. In case of a slider, move the cursor left/right to adjust.

   In case of a list with options, move the cursor right to enter and use the cursor up/down to select an option. Press the cursor left to leave the options list.
4. Press the **MENU** key again to switch off the menu.

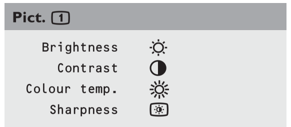
Note: Sometimes not all the menu items are visible on the screen. Press the cursor down until all the items are displayed.

Only when the US English language has been selected (see Setup menu, Language, p. 6), the menu items will be displayed with additional icons.

SD video-mode


Pict. 1
Brightness
Contrast
Colour
Colour temp.
(Tint)
Sharpness

VGA-mode + HD video mode


Pict. 1
Brightness
Contrast
Colour temp.
Sharpness

Operation

Press the **MENU** key on the remote control to sun the main menu.

Picture 1 menu

Brightness
This control allows you to adjust the brightness level of the picture.

Contrast
This control allows you to adjust the contrast level of the picture.

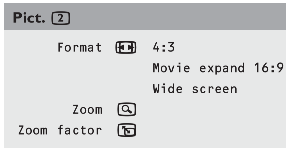
Colour *(only available when the source is **AV1**, **AV2** or **AV3 YCbCr**)*
This control allows you to adjust the saturation level of the colours to suit your personal preference.

Colour temperature
This control allows you to select the Colour temperature of the picture.
Move the cursor up/down to make a selection.
Press the cursor left to return to the Picture 1 menu.

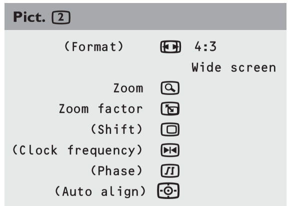
Tint *(only with NTSC signals and when the source is **AV1** or **AV2**)*
This control allows you to compensate for the Colour variations in NTSC encoded transmissions.

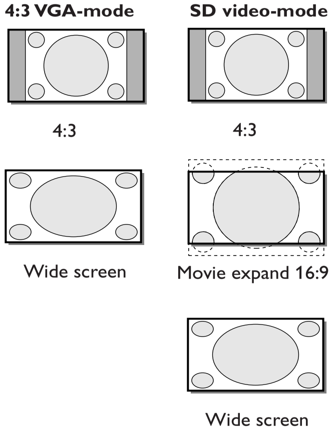
Sharpness
This control allows you to adjust the edge definition of a picture.

SD video-mode


Pict. 2
Format 4:3
Movie expand 16:9
Wide screen
Zoom
Zoom factor

VGA-mode + HD video mode


Pict. 2
(Format) 4:3
Wide screen
Zoom
Zoom factor
(Shift)
(Clock frequency)
(Phase)
(Auto align)



Picture 2 menu

Format *(only available in 4:3 VGA mode and SD video mode)*
Select **Format** to summon a list of **available** display formats.
Press the cursor up/down to select another display format: 4:3, Movie Expand 16:9 or Wide screen.

Note: Movie Expand 16:9 is not available in VGA mode.

Zoom
Select **Zoom On** to activate the zoom function.
You may also activate the zoom function with the **ZOOM ON/OFF** key on the remote control.
If no zoom is active, press the cursor left/right, up/down to select which part of the screen will be zoomed.

Zoom factor
Select **Zoom factor** and press the cursor left/right to adjust the zoom factor and to change the magnification of the picture.
If zoom is not active changing the magnification factor will have no effect on the displayed picture.

Shift *(only available in VGA mode on VGA 1 or VGA 2 and in one of the HD modes. See Connect Peripheral equipment, p. 7.)*

This control allows you, when necessary, to move the picture in a horizontal or vertical way.

1. Use the cursor left/right, up/down to adjust.
2. Press the **OK** key when done.

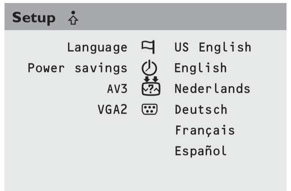
Clock frequency *(only available in VGA mode on VGA 1 or VGA 2. See Connect Peripheral equipment, p. 7.)*
This control allows you, when necessary, to adjust the values of the clock frequency so that especially text can be displayed with an optimal overall sharpness.
Use the cursor left/right to adjust.

Phase *(only available in VGA mode on VGA 1 or VGA 2. See Connect Peripheral equipment, p. 7.)*

This control allows you, when necessary, to adjust the pixel phase of the picture to avoid picture interference.
Use the cursor left/right to adjust.

Auto align *(only available in VGA mode on VGA1 or VGA2 and in one of the HD modes. See Connect Peripheral Equipment, p. 7.)*

This control allows you to automatically adjust the shift, the clock frequency and the phase in VGA mode and the shift in HD modes.
Press **OK** to execute.



Setup menu

Language

1. Use the cursor down to select **Language**.
2. Press the cursor right to enter the list of selectable languages.
3. Use the cursor up/down to scroll through the list and to bring up other languages which are not displayed on the screen at present.
   Note: Only with the US English language, the menu items will be displayed with additional icons.

Power savings

This control allows you to overrule the automatic power savings feature.
In case **Power savings** is switched **Off**, the power always remains on until the monitor is forced to standby.

1. Use the cursor down to select **Power savings**.
2. Press the cursor left/right to select **On** or **Off**.

AV3

This control allows you to set the **AV3** input to HD-RGB, YCbCr or HD-YPbPr. When having selected **Auto**, the monitor makes the selection automatically between YCbCr, HD-YPbPr or HD-RGB.
See also p. 7, Equipment with Component Video Output connectors.

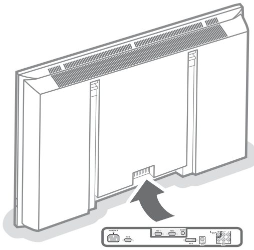
1. Use the cursor down to select **AV3**.
2. Press the cursor right to enter the list with options.
3. Press the cursor up/down to select one of the options.

VGA 2

This control allows you to select whether to set the VGA 2 connector as input, output or even HD-input.

1. Use the cursor down to select **VGA 2**.
2. Press the cursor right to enter the list with options: **VGA IN, VGA OUT** or **HD IN.**
3. Press the cursor up/down to select one of the options.
   Note: AV3 and VGA 2 will not be available in VGA loop through mode, i.e. when a receiver box is connected to the monitor and a VGA source is selected.

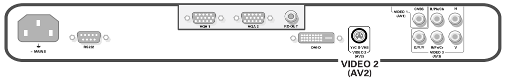
Connect Peripheral Equipment



You may connect 3 possible VGA sources (**VGA 1**, **VGA 2** or **DVI-D**) and 3 possible video sources (**VIDEO 1 (AV1)**, **VIDEO 2 (AV2)** and **VIDEO 3 (AV3)**) to the monitor.
The following diagrams show you where you can connect your peripheral equipment.

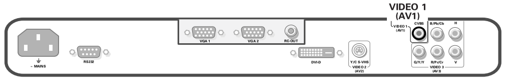
Note: in case the monitor is operating in combination with a receiver box, the VGA and video inputs on the monitor will be disabled and the VGA 2 connector becomes an output.

Equipment with Y/C-SVHS output connectors



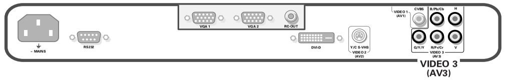
Connect the video cable to the **Y/C S-VHS VIDEO 2 (AV2)** connector.

Equipment with CVBS output connectors



Connect the video cable to the **CVBS VIDEO 1 (AV1)** connector.

Equipment with Component Video Output connectors



Note: VIDEO 3 (AV3) can handle the following video signals: YCbCr, HD-PbPr and HD-RGB. The discrimination between the various input formats and the appropriate video processing is done automatically. It is however possible to overrule the automatic detection. See Setup menu, p. 6.

1. Connect the video cables of your equipment with YPbPr output with composite sync on Y, or of your equipment with YCbCr output with composite sync on Y to the YPbPr, resp. YCbCr input **VIDEO 3 (AV3) IN** sockets of the monitor.
2. Connect the video cables of your equipment with RGB output with separate Horizontal and Vertical sync to the RGB input sockets and to the H and V sockets **VIDEO 3 (AV3)** of the monitor.

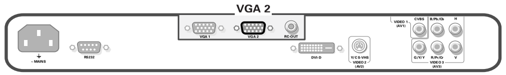
Note: when High Definition signals are inputted to the monitor via the YPbPr/RGB input, the monitor switches to the HD Video Mode.
The following HD and ED video modes are supported by the monitor on the YPbPr, RGB and VGA 2 HD input:

1920x1080/60I 720x480/60P
1280x720/60P 720x576/50P

The following SD video modes are supported by the monitor on the YCbCr input:

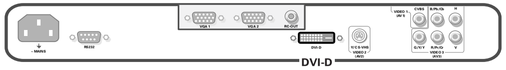
720x480/60I
720x576/50I

High Definition equipment with VGA connector



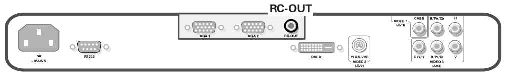
Connect the VGA output of your equipment to the **VGA2** connector.

Digital DVI output of your PC (DVI-D)



Connect the Digital DVI output of your PC to the **DVI-D** connector.

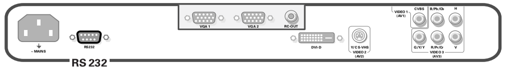
RC out connector



This connector allows you to daisy chain remote control signals to other equipment (e.g. AV receiver, IR repeater) which have an electrical RC in.

Note: it is not possible to daisy chain a second monitor.

Serial I/O port RS232



The RS232 connector is only to be used with the monitor as stand alone.
This connector allows you to control the monitor via your PC (as a replacement of the remote control).

Note: This connector can also be used for dealer service tools.

Tips

Ambient temperature
Do not hang up the monitor above a central heating or other heating sources.

Care of the screen
Clean the anti-reflex coated flat glass screen with a slightly damp soft cloth. Do not use abrasives solvents as it can damage the glass surface of the screen.

Plasma Display characteristics
Caution: A video source (such as a video game, DVD, or video information channel) which shows a constant non-moving pattern on the monitor screen, can cause damage to the screen. When your Flat-Monitor is continuously used with such a source, the pattern of the non-moving portion of the game (DVD, etc.) could leave an image permanently on the screen. When not in use, turn the video source **OFF**.
Regularly alternate the use of such video sources with normal viewing.
When switching over to another picture after having displayed the same still picture for a long time (many hours), it may happen that some parts from the previous picture will remain on screen due to a kind of memory effect. This ghost picture will disappear after some time. To avoid this effect change the pictures regularly or for PC use you can turn on a screen saver in your computer.
Philips has built in an automatic shift of the picture in video mode every 5 minutes to avoid this effect and to prolong the life of the screen.
Very incidentally and after a longer period of unuse (approx. 1 year) the screen may display some strange colour deficiencies. This is quite normal for plasma displays and these effects will disappear after the set has been turned on for some time.
A plasma display consists of a high number of colour pixels. It is within industry standards that very few pixels (< 0.001%) may be defective, even for a new set. There is however no reason to doubt about the quality of the set.
The plasma display technology operates with rare gases which are being influenced by air pressure.
Up to an altitude of 2000 m above sea-level (local air pressure equal or above 800 hPa), the display is functioning fine. Operating the set at a higher altitude (lower air pressure), the picture becomes unstable and the picture performance is deteriorating. The plasma display might then also produce a humming sound. Bringing the set below 2000 m (local air pressure equal or above 800 hPa) it works fine again. Transportation has no influence.

Control of peripheral equipment
The infrared radiation of the screen may influence the reception sensitivity of other peripherals. Solution: replace the batteries of the remote control or change position of other equipment. E.g. keep away a wireless headphone from within a radius of 1,5 m.

No stable or not synchronised VGA picture
Check if you have selected the correct display mode in your PC. See p. 2, Computer display modes.

No picture
Are the supplied cables connected properly? (The power cable to the display, the VGA cables,...)
Is your PC switched on?
Do you see a black screen and the indicator in front of the monitor lights up green, this means that the display mode is not supported.
Switch your VGA source to a correct mode.

Remote control
If your monitor no longer responds to the remote control, the batteries may be exhausted.

If your problem is not solved:
Switch your monitor off and then on again.
Never attempt to repair a defective monitor yourself.
Check with your dealer or call a video technician.

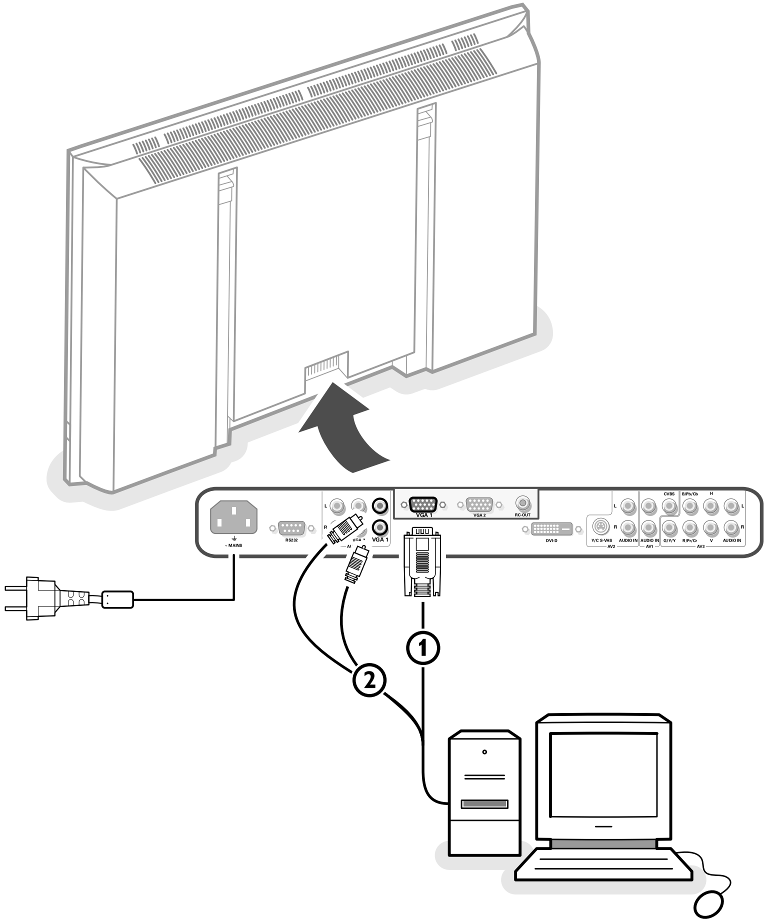
Transport
Keep the original packaging to transport the monitor if needed.

End of life directives
Philips is paying a lot of attention to produce environmentally-friendly in green focal areas. Your new monitor contains materials which can be recycled and reused.
At the end of its life specialised companies can dismantle the discarded monitor to concentrate the reusable materials and to minimise the amount of materials to be disposed of.
Please ensure you dispose of your old monitor according to local regulations.

How to dispose of batteries?
The batteries supplied do not contain the heavy metals mercury and cadmium. Nevertheless in many countries batteries may not be disposed of with your household waste. Please ensure you dispose of batteries according to local regulations.

Miscellaneous
. Ambient temperature: + 5~ + 40°C
. Maximum operating altitude: 2000 m /6562 ft (min. air pressure 800 hPa)
. Mains: AC 95-264V 50Hz/60Hz
. Power consumption: around 290W
. Standby consumption: < 2W
. Weight (excl. packaging) Display: 35 kg
. Dimensions (wxhxd): Display: 107 x 66 x 9 cm
. Wall mounting bracket included

3.3 Enhanced



Unpacking and wall mounting instructions

For the unpacking instructions follow the illustrated steps printed on the packaging (outside and inside). For the wall mounting instructions follow the illustrated steps ❹ to ❻ printed on the separate template and in the supplied booklet.

Make sure that the wall mount is being fixed securely enough so that it meets safety standards. The weight of the monitor (excl. packaging) is about 53 Lbs or 79 Lbs, depending on the screen size (32” or 42”).

Note: stands are optional acccessories. Consult your dealer.

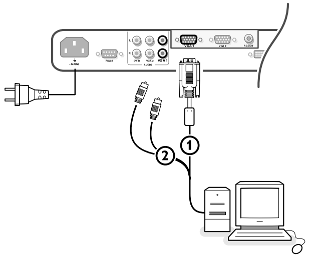
Connect your computer

Directly to the monitor

❶ Connect one end of a VGA cable ① to the video card of the computer and the other end to the **VGA 1** connector at the rear side of the monitor. Fix the connectors firmly with the screws on the plug.

❷ In case of a Multimedia computer, connect the audio cable ② to the audio outputs of your Multimedia computer and to the **AUDIO VGA 1 R** (right) and **L** (left) inputs of the TV monitor.

VGA 2: The video connector for VGA 2 can be programmed to become an input or an output via the Setup menu, see p. 8. The function of being input or output is determined by the used mode. If the monitor is used in TV mode, the VGA 2 connector is VGA output. If the monitor is used in monitor mode, the connector is VGA input or output.



To a TV receiver box

See the handbook of the TV receiver box.

❶ Connect one end of a VGA cable to the video card of the computer and the other end to the **PC/MAC IN** connector at the rear side of the TV receiver box. Fix the connectors firmly with the screws on the plug.

❷ In case of a Multimedia computer, connect the audio cable to the audio outputs of your Multimedia computer and to the **AUDIO IN R** (right) and **L** (left) inputs of the TV receiver box.

Note: Only use the VGA cable supplied with the monitor.

Daisy chaining

The Loop Through facility makes it possible to make a daisy chain with a second monitor.

❸ Connect one end of another VGA cable to the **VGA 2** connector at the rear side of the monitor and the other end to the **VGA 1** connector of a second monitor.

❹ In case of a Multimedia computer, also connect audio cables to the **AUDIO L** and **R** outputs of the original monitor and to the **AUDIO L** and **R** inputs of the second monitor.

The RC out jack next to the VGA 2 connector makes it possible to daisy chain remote control signals to other equipment.
This output cannot be used to daisy chain a second monitor.

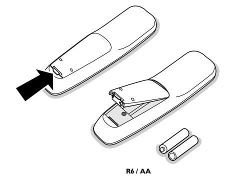
Computer Display modes

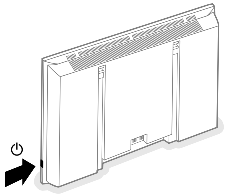
VGA	640x480	60, 72, 75, 85 Hz
Wide VGA	848x480	60 Hz
Wide VGA	852x480	60 Hz
MAC	640x480	66.67 Hz
MAC	832x624	74.55 Hz
MAC	1024x768	74.93 Hz
MAC	1152x870	75 Hz
SVGA	800x600	56, 60, 72, 75, 85 Hz
XGA	1024x768	60, 70, 75, 85 Hz
SXGA	1280x1024	60 Hz, 72 Hz (not with DVI-D source)

When a VGA computer is connected, the display selection is made automatically.

A message is displayed when the monitor does not support the connected VGA mode. Switch your computer to a correct display mode.

Operation





1. **Insert the mains plug** supplied into the mains inlet at the back of the monitor and in the wall socket. For safety, please, only use the supplied rim-earthed mains cord which has to be inserted in a grounded socket.

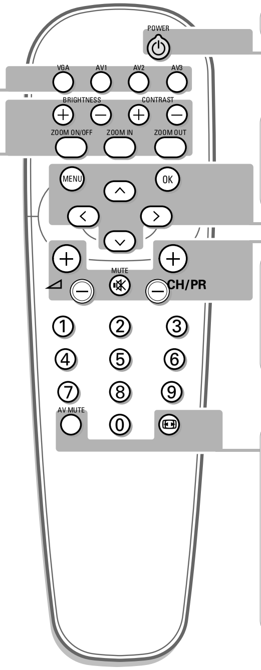
2. **Remote control:** remove the cover of the battery compartment. Insert the 2 batteries supplied (Type LR6/AA-1.5V). *The batteries supplied do not contain the heavy metals mercury and cadmium. Nevertheless in many countries batteries may not be disposed of with your household waste. Please check on how to dispose of batteries according to local regulations.*

3. Make sure that your TV receiver box and/or PC are switched on and that your PC is in the correct display mode.

4. **Switch the monitor on :** Press the power key ⏻ at the right side of the monitor.
A green indicator lights up and the screen comes on.
When the monitor does not receive a supported VGA signal and is not connected to a receiver box, the screen switches to standby and the red indicator lights up.

   When you switch on your monitor **for the first time**, and the monitor is not connected to a TV receiver box, the language menu automatically appears on the screen. The explanation appears in different languages one at a time.
Follow the instructions on screen to select the correct language or see Setup menu, Language, p. 8.

Use of the remote control



VGA
press repeatedly to select your computer connected to the **VGA 1** or **2** connector or to the **DVI-D** connector.

AV1, **AV2**, **AV3**
press to select the peripherals connected to the connector indicated on the monitor.

BRIGHTNESS +/-
to adjust the brightness level of the picture

CONTRAST +/-
to adjust the contrast level of the picture

ZOOM ON/OFF
to activate/de-activate the zoom function. See p. 7.

ZOOM IN/OUT to adjust the zoom factor and to change the magnification of the picture when zoom is activated. See p. 7.

⏻ to switch to standby or on again

MENU to switch the menu on/off
cursor buttons to select your choice and to alter a selected adjustment.

OK to activate your choice

◿ press - or + to adjust the volume

🔇 **Mute button**
Mute the sound or restore it

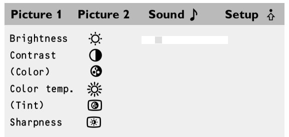
CH/PR Program selection
To browse through the sources selected.

AV MUTE to mute the picture and the sound or restore it (if the monitor is used in monitor mode).
When activated a green indicator starts blinking in front of the monitor.

▣ **Picture format**
See Picture 2 menu, p. 7.
Press the ▣ button to switch between the different picture formats.

On screen information
When the monitor is used in the monitor mode, information about the active source (**AV1**, **AV2**, **AV3**, **VGA1**, **VGA2** or **DVI-D**), and the supported video, VGA or HD-format of the selected source is displayed on the screen together with the selected picture format and icons informing about selected sound mode and AV or audio mute.

Use of the menus and the menu system



❶ Press the **MENU** button on the remote control to summon the different menu headers.

❷ Press the cursor left/right to move the cursor horizontally through the menu headers.

❸ Press the cursor down to access the menu.

In case of a slider, move the cursor left/right to adjust.

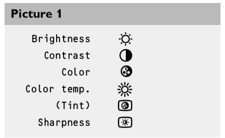
In case of a list with options, move the cursor right to enter and use the cursor up/down to select an option.
Press the cursor left to leave the options list.

❹ Press the **MENU** button again to switch off the menu.

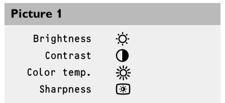
Note: Sometimes not all the menu items are visible on the screen. Press the cursor down until all the items are displayed.

Only when the US English language has been selected (see Setup menu, Language, p. 8), the menu items will be displayed with additional icons.

SD video-mode



VGA-mode + HD video mode



Operation

Press the **MENU** button on the remote control to summon the main menu.

Picture 1 menu

Brightness
This control allows you to adjust the brightness level of the picture.

Contrast
This control allows you to adjust the contrast level of the picture.

Color *(only available when the source is* ***AV1***, ***AV2*** *or* ***AV3 YCbCr****)*

This control allows you to adjust the saturation level of the colors to suit your personal preference.

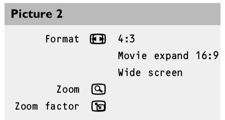
Color temperature
This control allows you to select the color temperature of the picture.
Move the cursor up/down to make a selection.
Press the cursor left to return to the Picture 1 menu.

Tint *(only with NTSC signals and when the source is* ***AV1*** *or* ***AV2****)*

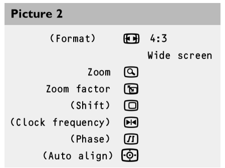
This control allows you to compensate for the color variations in NTSC encoded transmissions.

Sharpness
This control allows you to adjust the edge definition of a picture.

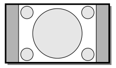
SD video-mode



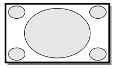
VGA-mode + HD video mode



4:3 VGA-mode

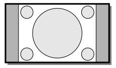


4:3

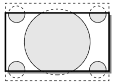


Wide screen

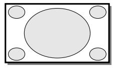
SD video-mode



4:3



Movie expand 16:9



Wide screen

Picture 2 menu

Zoom
Select **Zoom On** to activate the zoom function.
You may also activate the zoom function with the **ZOOM ON/OFF** button on the remote control.
If no zoom is active, press the cursor left/right, up/down to select which part of the screen will be zoomed.

Zoom factor
Select **Zoom factor** and press the cursor left/right to adjust the zoom factor and to change the magnification of the picture.
If zoom is not active, changing the magnification factor will have no effect on the displayed picture.

Format *(only available in 4:3 VGA mode and SD video mode)*
Select **Format** to summon a list of **available** display formats.
Press the cursor up/down to select another display format: 4:3, Movie expand 16:9 or Wide screen.
Note: Movie expand 16:9 is not available in VGA mode.

Shift *(only available in VGA mode on VGA1 or VGA2 and in one of the HD modes. See Connect Peripheral Equipment, p. 9.)*

This control allows you, when necessary, to move the picture in a horizontal or vertical way.

❶ Use the cursor left/right, up/down to adjust.

❷ Press the **OK** button when done.

Clock frequency *(only available in VGA mode on VGA 1 or VGA 2. See Connect Peripheral equipment, p. 9.)*
This control allows you, when necessary, to adjust the values of the clock frequency so that especially text can be displayed with an optimal overall sharpness.

Use the cursor left/right to adjust.

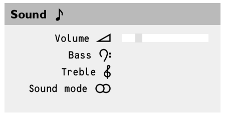
Phase *(only available in VGA mode on VGA 1 or VGA 2. See Connect Peripheral equipment, p. 9.)*

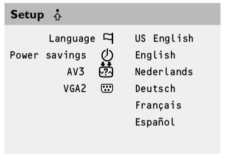
This control allows you, when necessary, to adjust the pixel phase of the picture to avoid picture interference.

Use the cursor left/right to adjust.

Auto align *(only available in VGA mode on VGA1 or VGA2 and in one of the HD modes. See Connect Peripheral Equipment, p. 9.)*

This control allows you to automatically adjust the shift, the clock frequency and the phase in VGA mode and the shift in HD modes.
Press **OK** to execute.





Sound menu

Volume

This control allows you to adjust the volume level of the sound from the speakers.

Bass

Bass attenuates or amplifies the low-frequency response of the sound from the loudspeakers.

Treble

Treble attenuates or amplifies the high-frequency response of the sound from the loudspeakers.

Sound mode

This control allows you to switch between mono and stereo sound.

Note: Bass, Treble and Sound mode will not be available in VGA loop through mode, i.e. when a TV receiver box is connected to the monitor and a VGA source is selected.

Setup menu

Language

1. Use the cursor down to select **Language**.
2. Press the cursor right to enter the list of selectable languages.
3. Use the cursor up/down to scroll through the list and to bring up other languages which are not displayed on the screen at present.
   Note: Only with the US English language, the menu items will be displayed with additional icons.

Power savings

This control allows you to overrule the automatic power savings feature.
In case **Power savings** is switched **Off**, the power always remains on until the monitor is forced to standby.

1. Use the cursor down to select **Power savings**.
2. Press the cursor left/right to select **On** or **Off**.

AV3

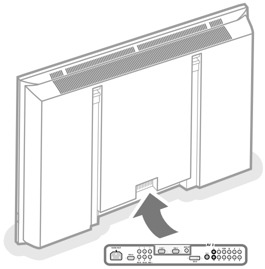
This control allows you to set the AV3 input to HD-RGB, YCbCr or HD-YPbPr. When having selected **Auto**, the monitor makes the selection automatically between YCbCr, HD-YPbPr or HD-RGB.
See also p. 9, Equipment with Component Video Output connectors.

1. Use the cursor down to select **AV3**.
2. Press the cursor right to enter the list with options.
3. Press the cursor up/down to select one of the options.

VGA2

This control allows you to select whether to set the VGA2 connector as input, output or even HD-input.

1. Use the cursor down to select **VGA2**.
2. Press the cursor right to enter the list with options: **VGA IN**, **VGA OUT** or **HD IN**.
3. Press the cursor up/down to select one of the options.
   Note: AV3 and VGA2 will not be available in VGA loop through mode, i.e. when a TV receiver box is connected to the monitor and a VGA source is selected.

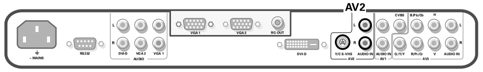


Connect Peripheral Equipment

You may connect 3 possible VGA sources (**VGA1**, **VGA2** or **DVI-D**) and 3 possible video sources (**AV1**, **AV2** and **AV3**) to the monitor.
The following diagrams show you where you can connect your peripheral equipment.

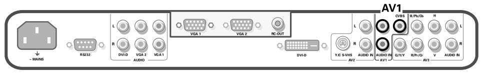
Note: in case the monitor is operating in combination with a TV receiver box (TV mode), the AV inputs on the monitor will be disabled and the VGA2 connector becomes an output.

Equipment with Y/C-SVHS output connectors



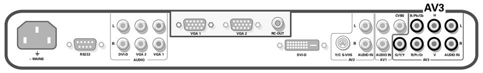
1. Connect the video cable to the **AV2** connector.
2. Connect the audio cables to the equipment's **AUDIO L** and **R** sockets and to the **AUDIO L** and **AUDIO R AV2** sockets on the monitor.

Equipment with CVBS output connectors



1. Connect the video cable to the **AV1** connector.
2. Connect the audio cables to the equipment's **AUDIO L** and **R** sockets and to the **AUDIO L** and **R AV1** sockets on the monitor.

Equipment with Component Video Output connectors



Note: AV3 can handle the following video signals: YCbCr, HD-YPbPr and HD-RGB. The discrimination between the various input formats and the appropriate video processing is done automatically. It is however possible to overrule the automatic detection. See Setup menu, p. 8.

1. Connect the video cables of your equipment with YPbPr output with composite sync on Y, or of your equipment with YCbCr output with composite sync on Y to the YPbPr, resp. YCbCr input **AV3 IN** sockets of the monitor.
2. Connect the video cables of your equipment with RGB output with separate Horizontal and Vertical sync to the RGB input sockets and to the H and V sockets **AV3** of the monitor.
3. Connect the audio cables to the equipment's **AUDIO L** and **R** sockets and to the **AUDIO IN L** and **AUDIO IN R AV3** sockets on the monitor.

Note: when High Definition signals are inputted to the monitor via the YPbPr/RGB input, the monitor switches to the HD Video Mode.

The following HD and SD video modes are supported by the monitor on the YPbPr, RGB and VGA2 HD input:

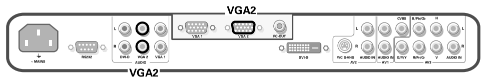
1920x1080/60I	720x480/60P
1280x720/60P	720x576/50P

The following SD video modes are supported by the monitor on the YCbCr input:

720x480/60I
720x576/50I

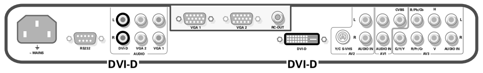
Note: you should make the correct selection for AV3 in the Setup menu, p. 8.

High Definition equipment with VGA connector



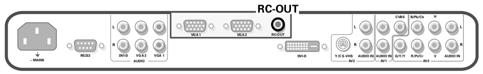
1. Connect the VGA output of your equipment to the **VGA2** connector.
2. Connect the audio cables to the equipment's **AUDIO L** and **R** sockets and to the **VGA2 AUDIO L** and **R** sockets on the monitor.
   *Note: you should select **HD IN** for **VGA2** in the Setup menu. (See p. 8.)*

Digital DVI output of your PC (DVI-D)



1. Connect the Digital DVI output of your PC to the **DVI-D** connector.
2. Connect the audio cables to the **DVI-D AUDIO L** and **R** sockets on the monitor.

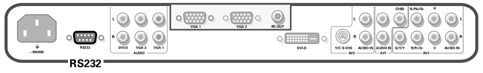
RC out connector



This connector allows you to daisy chain remote control signals to other equipment (e.g. AV receiver, IR repeater) which have an electrical RC in.

Note: it is not possible to daisy chain a second monitor.

Serial I/O port RS232



The RS232 connector is only to be used with the monitor as stand alone. This connector allows you to control the monitor via your PC (as a replacement of the remote control). **Software is supplied on CD-ROM**.

Note: This connector can also be used for dealer service tools.

Supplied driver software

Disclaimer of all warranties: Philips makes no warranty, representation, nor promise with regard to this software. Philips disclaims and excludes any and all express or implied warranties of merchantability, title, or fitness for a particular purpose. Philips does not warrant that the software or documentation will satisfy your requirement or that the software and documentation are without defect or error or that the operation of the software will be uninterrupted.
Limitation of liability: Philips and the authors of programs sold by Philips accept no responsibilities nor liability arising from or relating to this software or documenation.

Tips

Ambient temperature

Do not hang up the monitor above a central heating or other heating sources.

Care of the screen

Clean the anti-reflex coated flat glass screen with a slightly damp soft cloth. Do not use abrasives solvents as it can damage the glass surface of the screen.

Plasma Display characteristics

Caution: A video source (such as a video game, DVD, or TV information channel) which shows a constant non-moving pattern on the TV screen, can cause damage to the screen. When your Flat-TV is continuously used with such a source, the pattern of the non-moving portion of the game (DVD, etc.) could leave an image permanently on the screen. When not in use, turn the video source **OFF**. Regularly alternate the use of such video sources with normal TV viewing.

When switching over to another picture after having displayed the same still picture for a long time (many hours), it may happen that some parts from the previous picture will remain on screen due to a kind of memory effect. This ghost picture will disappear after some time. To avoid this effect change the pictures regularly or for PC use you can turn on a screen saver in your computer.
Philips has built in an automatic shift of the picture in video mode every 5 minutes to decrease this effect and to prolong the life of the screen.
Very incidentally and after a longer period of unuse (approx. 1 year) the screen may display some strange color deficiencies. This is quite normal for plasma displays and these effects will disappear after the set has been turned on for some time.
A plasma display consists of more than 3.1 Million color pixels. It is within industry standards that very few pixels (< 0.001%) may be defective, even for a new set. There is however no reason to doubt about the quality of the set.
The plasma display technology operates with rare gases which are being influenced by air pressure. Up to an altitude of 6562 ft above sea-level, the display is functioning fine. Operating the set at a higher altitude, the picture becomes unstable and the picture performance is deteriorating. After bringing the set below 6562 ft it works fine again. Transportation has no influence.

Control of peripheral equipment

The infrared radiation of the screen may influence the reception sensitivity of other peripherals. Solution: replace the batteries of the remote control or change position of other equipment. E.g. keep away a wireless headphone from within a radius of 4.92 ft.

No stable or not synchronized VGA picture

Check if you have selected the correct display mode in your PC. See p.4, Computer display modes.

No picture or no sound

Are the supplied cables connected properly? (The power cable to the display, the VGA cables, the audio cables,...)
Is your PC switched on?
Do you see a black screen and the indicator in front of the monitor lights up green, this means that the display mode is not supported.
Switch your VGA source to a correct mode.

Remote control

If your monitor no longer responds to the remote control, the batteries may be exhausted.

If your problem is not solved:
Switch your monitor off and then on again.
Never attempt to repair a defective monitor yourself.
Check with your dealer or call a TV technician.

Transport

Keep the original packaging to transport the monitor if needed.

End of life directives

Philips is paying a lot of attention to produce environmentally-friendly in green focal areas. Your new monitor contains materials which can be recycled and reused.
At the end of its life specialized companies can dismantle the discarded monitor to concentrate the reusable materials and to minimize the amount of materials to be disposed of.
Please ensure you dispose of your old monitor according to local regulations.

How to dispose of batteries ?

The batteries supplied do not contain the heavy metals mercury and cadmium. Nevertheless in many countries batteries may not be disposed of with your household waste. Please ensure you dispose of batteries according to local regulations.

Miscellaneous

. Ambient temperature: + 5~ + 40°C
. Maximum operating altitude:
  2000 m/6562 ft (min. pressure 800h Pa)
. Mains: AC 95-264V 50/60 Hz
. Power consumption:
  ± 250 W (32") or ± 320 W (42")
. Standby consumption: < 2 W
. Weight (excl. packaging)
  Display: 53 (32") or 79 (42") Lbs
. Dimensions (wxhxd):
  Display: 38 x 20,2 x 3,5 inch (32")
  or 47,8 x 25,9 x 3,5 inch (42")
. Wall mounting bracket included

If this instruction manual does not give an answer or if 'Tips' do not solve your TV problem, you can call your Local Philips Customer or Service Center. See the supplied World-wide guarantee booklet.
Please, have the Model and Product number which you can find at the back of your television set or on the packaging, ready, before calling the Philips helpline (800-531-0039).

4. Mechanical Instructions

Index of this chapter:
- Service Positions Monitor
- Rear Cover Removal
- Service Position Panels
- PDP and Glass Plate Replacement
- Re-assembly

Note: Figures below can deviate from the actual situation, due to different set executions.

4.1 Service Positions Monitor

4.1.1 Transport Cushions

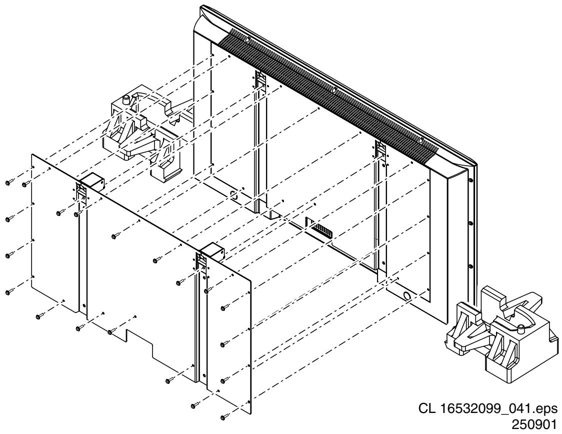

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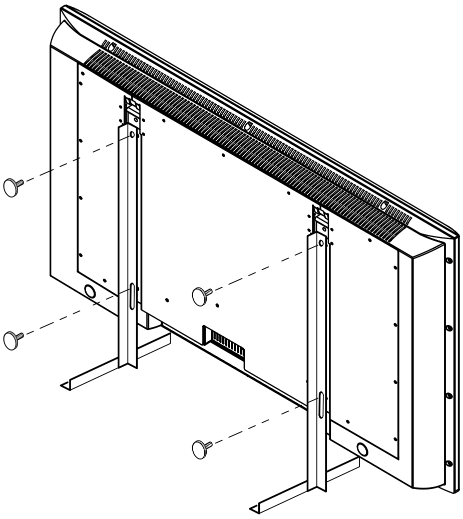
Figure 4-1 Transport cushions

First, put the monitor in its service position. Therefore, disconnect all cables connected to the monitor and take the monitor of the wall (or tabletop stand). Then, place the monitor in the re-enforced transport cushions that function also as service stand (you can order them separately under code 3122 126 40612). See figure "Transport cushions".

Notes:
- There are no special "re-enforced service stands". The cushions used in the factory packaging are already made of reinforced material.
- Always keep in mind that the stands are only designed to keep the monitor in service position as long as the monitor is being serviced. The stands are NOT designed to keep the monitor in the upright position for more then two days.
- After the monitor is serviced, or when nobody is working on the monitor (e.g. in the weekend), it should be removed from the stands and laid down on a cushion or other support system to prevent it from falling.
- Worn out stands should be replaced by new ones (monitor will tilt to much forward).
- Never leave the monitor alone when the stands are not fully pressed on its place.
- It is possible to move the right stand a bit to the right so that you can access the IR-LED and ON/OFF switch, but the monitor can then not be left alone because the stands are NOT designed to carry the weight of the monitor in that position. A better solution to access the IR-LED and/or ON/OFF switch is to make some holes in the stands at the position of the LED and switch. Do not make the holes to big, as this will influence the strength of the stands.

4.1.2 Aluminium Stand: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040703

Figure 4-2 Aluminium stand

The aluminium stand (order code 3122 785 90480) can be mounted with the back cover removed or still left on. So, the stand can be used to store products or to do measurements. It is also very suitable to perform duration tests without taking much space, without having the risk of overheating and no risk of products falling. The stand can be mounted and removed quickly and easy with use of the delivered screws that can be tightened and loosened manually without the use of tools. See figure above.

Note: Only use the delivered screws to mount the monitor to the stand.

4.1.3 Foam Stand:

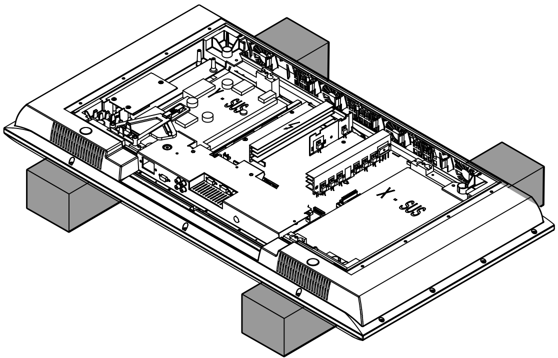
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Figure 4-3 Foam stand

The foam stand (order code 3122 785 90580) can be used for all types and sizes of FTVs and LCD TVs and can even be used to e.g. exchange a CRT of a normal TV. By laying the plasma or LCD TV flat on the (ESD protective) foam bars, a stable situation is created to perform measurements and alignments. See figure "Foam stand".
By first placing a mirror flat on the table under the TV you can easily see if something is happening on the screen. The stand is also handy to replace the screen (PDP or LCD).

4.2 Rear Cover Removal

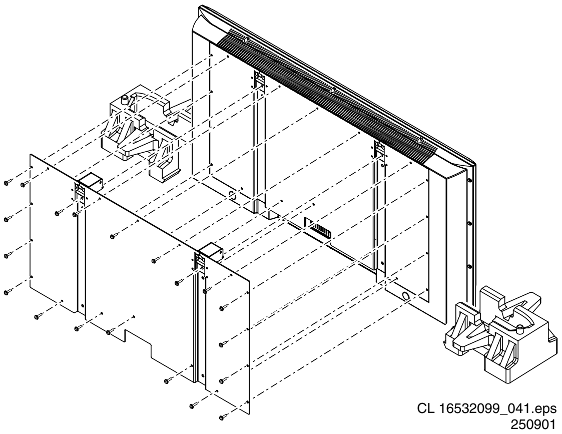
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Figure 4-4 Rear cover removal

To be able to access or measure the panels, remove the rear cover (metal back plate):

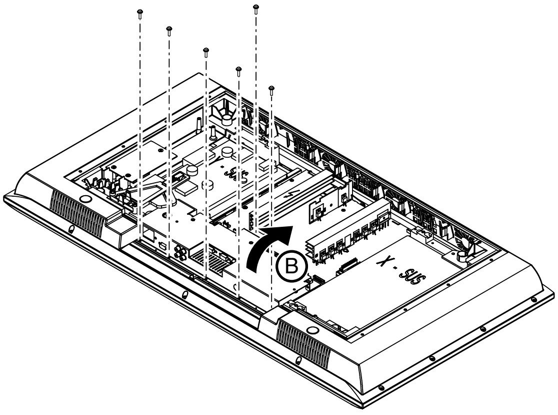
1. Remove all fixation screws from the back plate, as indicated in figure above (the amount of screws that need to be removed differs from the amount in the figure above).
2. Remove the metal back plate. Make sure that wires and flat foils are not damaged during plate removal.

Warning: make sure that the mains power is disconnected when you remove the metal back plate.

4.3 Service Position Panels

4.3.1 SCAVIO Panel

Solder-side SCAVIO



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200901

Figure 4-5 Service position SCAVIO (1)

To access the panel:

1. Remove the cables from connectors 0301, 0305, 0320, 0319, and 0388 to the SCAVIO panel.
2. Remove the power cable from the mains power inlet to the power supply (connector 0308).
3. Remove all screws at the bottom.
4. Hold the panel while removing the top screw, in order to prevent that the panel will drop.
5. Take the panel out, and turn it 180 degrees, so that you face the solder side of the SCAVIO panel.
6. Reconnect all cables. Use a standard power cable to connect the mains directly to PSU-connector 0308, and use the 'LED/Switch panel' service kit 3122 785 90410 (as the original cable is too short).

Caution: When measuring, watch out for the 'hot' left heat sink of the PSU!

Another way to measure the SCAVIO panel:

1. Remove all screws at the bottom.
2. Hold the panel while removing the top screw, in order to prevent that the panel will drop.
3. Put a piece of paper (or cardboard) in front of the Power Supply.
4. Take the panel out, and turn it upward [B], so that you face the solder-side of the SCAVIO panel.

Caution: Make sure that the metal connector plate does not touch any 'hot' part of the Power Supply (heatsink).

Component-side SCAVIO

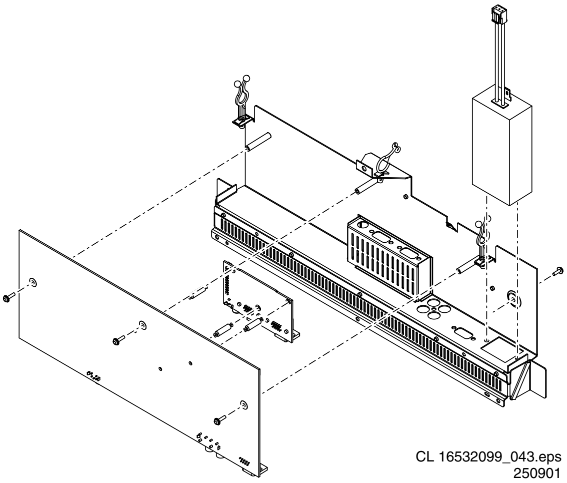
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Figure 4-6 Service position SCAVIO (2)

To access the other side of the SCAVIO panel:

1. Disconnect all cables going to the SCAVIO panel.
2. Remove all screws at the connectors of the connector plate, see figure 'Solder-side SCAVIO'.
3. Remove all fixation screws that connect the SCAVIO panel to the connector plate, see figure 'Component-side SCAVIO'.
4. Reconnect the SCAVIO panel, be careful: do not make a short-circuit!

4.3.2 VGA Connector Panel

To remove the VGA Connector Panel:

1. Squeeze the three plastic pins that connect this panel to the SCAVIO board, while you pull it carefully upwards.
2. Unplug the flat cable.

4.3.3 Power Supply Panel

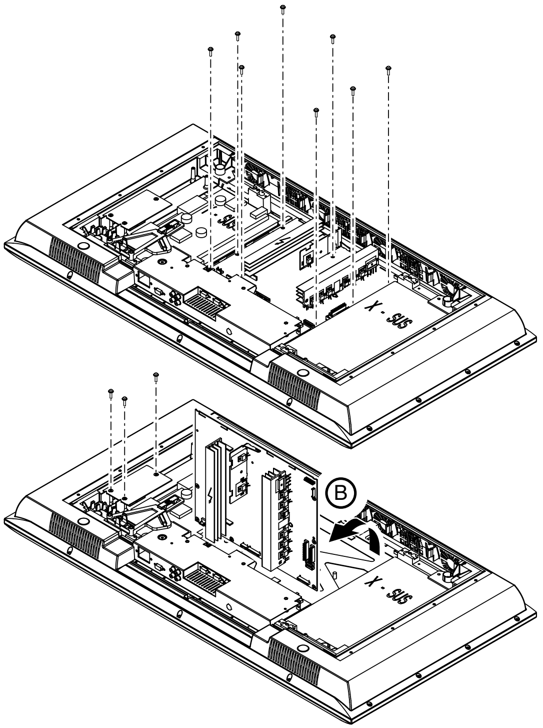

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Figure 4-7 Service Position Power Supply

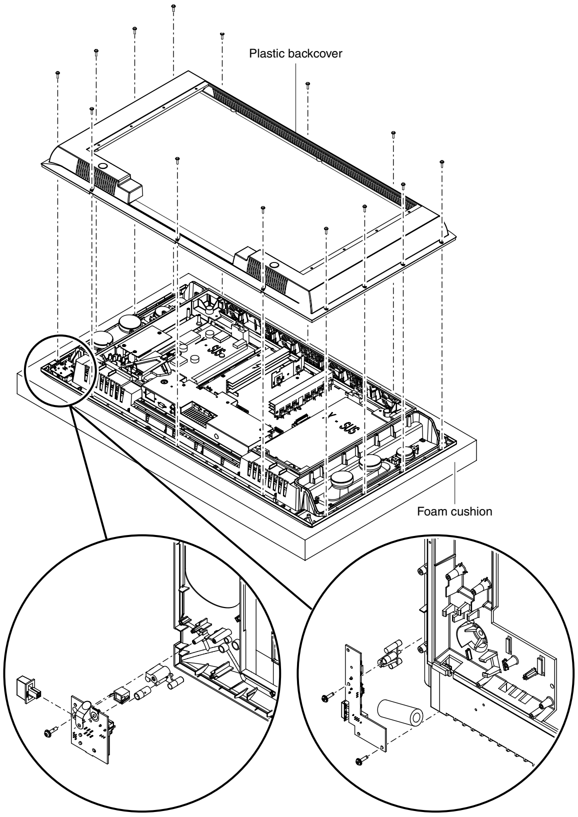
It is possible to perform most measurements from the component level side (thus, how the panel is mounted in the set). However, to reach the copper-side of the Power Supply:

1. Unplug the power.
2. Remove all fixation screws from the Power Supply.
3. Hinge the Power Supply forward, so that you can reach the copper-side. Use a non-conducting part underneath, to support the PWB (e.g. a carton box).
   Caution: make sure that, when you hinge the Power Supply forward, you do not damage the cables. Pay special attention to the flat cable (on connector 0307) and the cable on connector 0306, because they can be easily damaged by the sharp edge of the connector plate.
4. To remove the Power Supply, unplug all cables.
5. Remove the Power Supply.

4.3.4 Audio Amplifier Panel

The solder-side of this panel is directly accessible. To access the component-side, or to remove the whole panel, unscrew the three fixation screws (see figure 'Power Supply Panel'), and (re)move the panel.

4.3.5 LED/Switch Panel and Speakers



LED/SWITCH PANEL
FOR VERSION WITH SPEAKERS

LED/SWITCH PANEL
FOR SPEAKERLESS VERSION

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300603

Figure 4-8 Service Position LED/Switch Panel and Speakers

To access or replace the LED/Switch panel and/or speakers:

1. Take the monitor from its service stand, and put it (face down) on a soft surface (blanket, foam cushion or foam stand), to make sure that you do not damage the front glass plate.
2. Unscrew all fixation screws of the plastic back cover.
3. Lift and remove the plastic back cover.
4. You can access now the LED/Switch panel and/or the speakers.

4.3.6 LED/Switch panel

To measure the component-side, or to remove the LED/Switch panel, unscrew one fixation screw (see enlarged part of figure 'LED/Switch Panel and Speakers'), and remove the panel.

4.3.7 Loudspeakers

As soon as you have removed the plastic back cover, you must replace the speaker-box sealing foams (12nc: 3122 358 76221). This, to ensure that the loudspeakers are airtight.
Do not stretch the foam during mounting. Pay special attention to the corners, to make sure that the foam is not stretched and that it is pushed in the corners.

4.4 PDP and Glass Plate Replacement

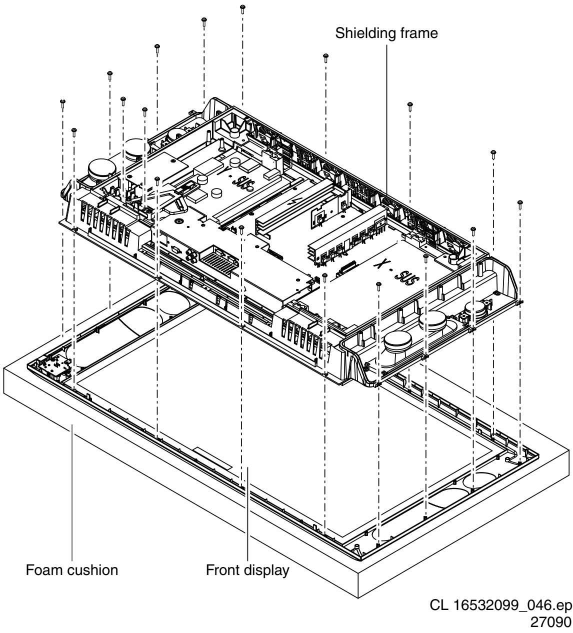


Figure 4-9 Exchanging the glass plate

Exchanging the glass plate

1. Take the monitor from its service stand, and put it (face down) on a soft surface (blanket, foam cushion or foam stand), to make sure that you do not damage the front glass plate.
2. Remove the metal back plate as described in paragraph 'Rear Cover Removal'.
3. Unscrew all fixation screws of the plastic back cover.
4. Lift and remove the plastic back cover.
5. If the triangular shaped cable holder at the left bottom is present, unscrew the fixation screws of the holder at the left bottom, see figure 'Exchange Glass Plate'.
6. Unplug the cable of the LED/Switch panel, connector 0320
7. If the ESM Filter Panel at the left bottom is present, unscrew the fixation screws.
8. Unscrew all fixation screws of the (metallised) shielding frame, see figure 'Exchange Glass Plate'.
9. You can now remove the (metallised) shielding frame, together with the PDP, Audio panel, Power supply and SCAVIO panel attached to it, see figure 'Exchange Glass Plate'.
   Note: To prevent scratches, make sure to put the shielding frame together with the PDP on a soft surface.
10. Replace the glass plate.

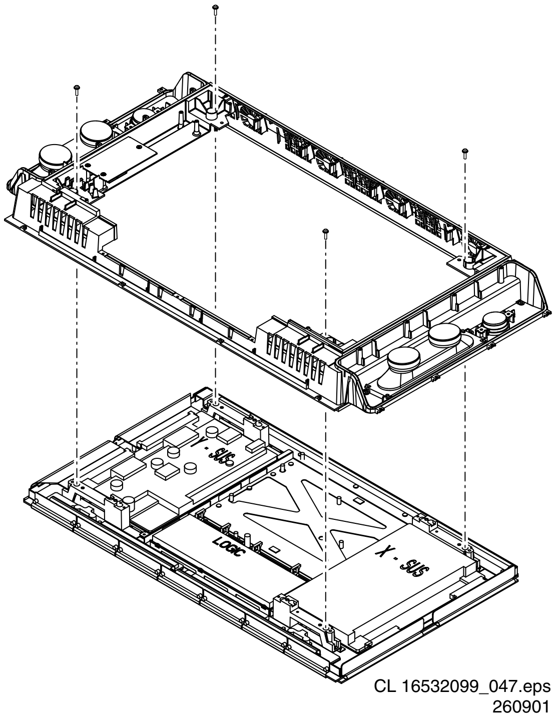


Figure 4-10 Exchanging the PDP

To exchange the PDP panel:

1. Take out the SCAVIO panel and Power Supply panel, as described earlier.
2. Unscrew all fixation screws of the (metallised) shielding frame (two at the top and two at the bottom, see figure 'Exchange PDP').
3. The shielding frame can now be taken off the PDP.
4. Replace the PDP.

4.5 Re-assembly

To re-assemble the whole set, do all processes in reverse order.

Notes:

- You must replace the speaker-box sealing foam, in case the plastic rear cover has been (re)moved.
- While re-assembling, make sure all the cables are in their original position and make sure all the EMC foams are present to ensure 'EMC tightness'.

5. Service Modes, Error Codes, and Fault Finding

Index of this chapter:

1. Test points
2. Service Modes
3. Problems and Solving Tips (related to CSM)
4. ComPair
5. Error Codes
6. The Blinking LED Procedure
7. Protections
8. Repair Tips

5.1 Test Points

The chassis is equipped with test points (I- and F-points) printed on the circuit board assemblies. See test point overview in chapter 6.

Perform measurements under the following conditions:

- Service Default Mode.
- Video: colour bar signal (via PC or VGA-generator).
- Audio: 1 kHz, 2 V_pp (via PC or VGA-generator).

5.2 Service Modes

Service Default Mode (SDM) and Service Alignment Mode (SAM) offer several features for the service technician, while the Customer Service Mode (CSM) is used for communication between a Philips Customer Care Centre (P3C) and a customer.

There is also the option of using ComPair, a hardware interface between a computer (see requirements) and the FTV chassis. It offers the ability of structured troubleshooting, test pattern generation, error code reading, software version readout, and software upgrading.
Minimum requirements: a Pentium Processor, Windows 9x/NT/2000/XP, and a CD-ROM drive (see also paragraph 5.4).

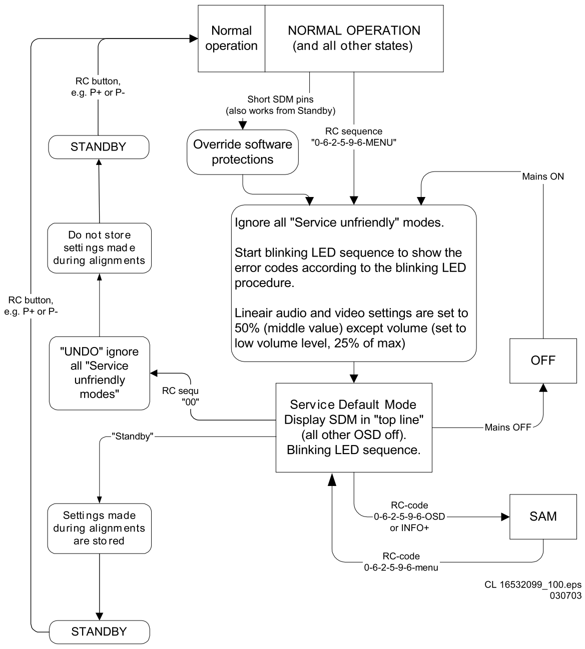
5.2.1 Service Default Mode (SDM)

Purpose

- To create a pre-defined setting to get the same measurement results as given in this manual.
- To override SW protections (only when SDM is entered via the "service pins" on connector 0382).
- To start the blinking LED procedure.

Specifications

- All picture settings at 50% (brightness, contrast, etc.).
- Colour temperature is set to "normal".
- Bass, treble and balance at 50%; volume at 25%.
- All service-unfriendly modes (if present) are disabled, like:
- Video blanking,
- Slow de-mute,
- Anti ageing,
- Automatic switch to Standby when no sync signals are received.



Normal operation
NORMAL OPERATION (and all other states)
RC button, e.g. P+ or P-
Short SDM pins (also works from Standby)
STANDBY
Override software protections
RC sequence "0-6-2-5-9-6-MENU"
Mains ON
Do not store settings made during alignments
Ignore all "Service unfriendly" modes.
Start blinking LED sequence to show the error codes according to the blinking LED procedure.
Lineair audio and video settings are set to 50% (middle value) except volume (set to low volume level, 25% of max)
RC button, e.g. P+ or P-
"UNDO" ignore all "Service unfriendly modes"
OFF
RC sequ "00"
Service Default Mode Display SDM in "top line" (all other OSD off). Blinking LED sequence.
Mains OFF
"Standby"
Settings made during alignments are stored
RC-code 0-6-2-5-9-6-OSD or INFO+
SAM
RC-code 0-6-2-5-9-6-menu
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030703
STANDBY

Figure 5-1 CL1SDM Flowchart

How to enter SDM

Use one of the following methods:

- Use the standard RC-transmitter and key in the code **062596**, directly followed by the **MENU** button.
- Short jumpers 1 and 2 of connector 0382 on the SCAVIO panel.

After entering SDM, a blank screen is visible, with SDM in the upper left side for recognition. The Blinking LED procedure is started and will indicate any possible errors via the (orange) front LED.

How to navigate

To toggle to the SAM mode, use a standard customer RC-transmitter and key in the code **062596**, directly followed by the **OSD (i+)** key.

How to exit

Use one of the following methods (the set returns to its last status):

- Switch the set to STANDBY by pressing the power button on the remote control transmitter (if you switch the set "off" by removing the Mains power, the set will return in SDM, when the Mains power is re-applied).
- Use the standard RC-transmitter and key in the code **00**.

5.2.2 Service Alignment Mode (SAM)

Purpose

- To perform (software) alignments.
- Easy way to identify the commercial type number of the set.
- Easy identification of the used software versions.
- To display (or clear) the error code buffer.
- View operational hours.

Specifications

- Operation hours counter.
- Software version reading.
- Error buffer reading and erasing.
- Software alignments.
- Test pattern generation.

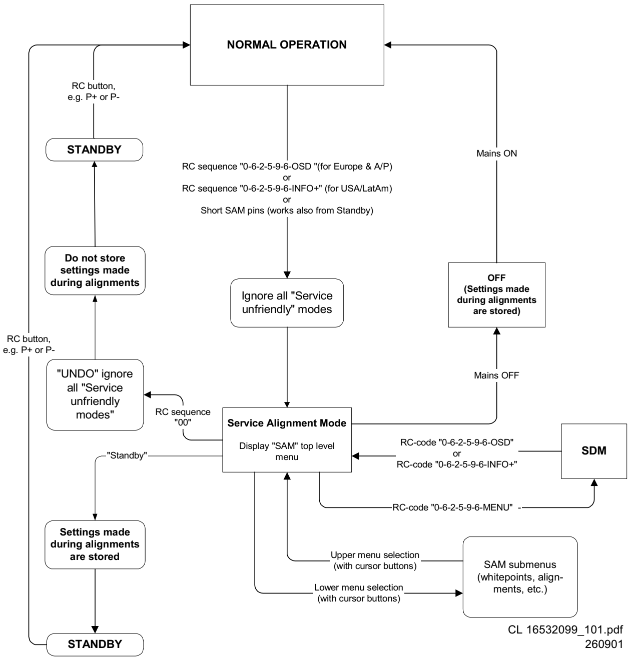
NORMAL OPERATION
RC button, e.g. P+ or P-
STANDBY
RC sequence "0-6-2-5-9-6-OSD "(for Europe & A/P) or RC sequence "0-6-2-5-9-6-INFO+" (for USA/LatAm) or Short SAM pins (works also from Standby)
Mains ON
Do not store settings made during alignments
Ignore all "Service unfriendly" modes
OFF (Settings made during alignments are stored)
RC button, e.g. P+ or P-
"UNDO" ignore all "Service unfriendly modes"
Mains OFF
RC sequence "00"
Service Alignment Mode
Display "SAM" top level menu
RC-code "0-6-2-5-9-6-OSD" or RC-code "0-6-2-5-9-6-INFO+"
SDM
"Standby"
RC-code "0-6-2-5-9-6-MENU"
Settings made during alignments are stored
Upper menu selection (with cursor buttons)
SAM submenus (whitepoints, alignments, etc.)
Lower menu selection (with cursor buttons)
STANDBY

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Figure 5-2 SAM Flowchart

How to enter

Use one of the following methods:

- Use a standard RC-transmitter and key in the code **062596** directly followed by the **OSD (i+)** button.
  Note: the OSD (i+) is not available on the original FTV remote control; therefore use another Philips remote control (e.g. MG, EMG or A10).
- Short jumpers 3 and 4 of connector 0382 on the SCAVIO panel.

The following screen is visible:

Table 5-1 SAM Menu "General"

Service Alignment Menu	General
Type Nr. - AG Code	32FD9944/01S (example)
SW Version OTC	AAAABC-X.Y_xxxxx
SW Version PW	AAAABC-X.Y_xxxxx
SW Version EPLD	AAAABC-X.Y_xxxxx
Errors 1	xx xx xx xx xx
Errors 2	xx xx xx xx xx
Operational hours	xx
Reset error buffer	Press OK to reset
Store	Press OK to store

1. **TYPE NR.** Gives the commercial type number of the monitor, e.g. 32FD9944/01S.
2. **AG CODE.** Is not implemented.
3. **SW VERSION OTC** (AAAABC-X.Y-xxxxx).
   Note: You will find details of the latest software versions in the chapter "Software Survey" of the "Product Survey - Colour Television" publication, which is published four times each year.
   - A = the chassis name (FM23 for **all** displays).
   - B = the region (E= Europe, A= Asia Pacific, U= NAFTA, L= LATAM or G = Global).
   - C = the configuration name (B= Basic, E= Enhanced).
   - X = the main software version number.
   - Y = the sub software version number.
   - x = last five digits of 12nc code.
4. **SW VERSION PW** (AAAABC-X.Y-xxxxx). See description above.
5. **SW VERSION EPLD** (AAAABC-X.Y-xxxxx). See description above.
6. **ERRORS 1.** Gives the last five errors of the error buffer. The last detected error is displayed at the most left position. The errors are displayed as 2 digit numbers and separated by a space. When less than 10 errors occurred, the rest of the line(s) is empty. In case of no errors, the text "No Errors" is displayed behind menu item "Errors 1". See paragraph 5.5 for a description.
7. **ERRORS 2.** Gives the first five errors of the error buffer. The last detected error is displayed at the most left position.
8. **OPERATIONAL HOURS.** The Operations Hours indicate the time that the display was active with half an hour resolution. It represents the system hours (OTC), not the PDP hours.
9. **RESET ERROR BUFFER.** Erase the contents of the error buffer. Press "OK" on your remote control to activate. The content of the error buffer is cleared.
10. **STORE.** This will store the performed alignments. Press "OK" on your remote control to activate.
    Note: if you do not want to store the performed alignments, leave the SAM mode via code 0 0 on your remote control. Do not activate the "store" item.

How to navigate

Use one of the following methods:

- Select the sub-menu's (upper line) with the CURSOR LEFT/RIGHT keys on the remote control transmitter.
- Select the menu items with the CURSOR UP/DOWN keys. With the CURSOR LEFT/RIGHT keys it is possible to:
  – Activate the selected menu item.
  – Change the value of the selected menu item.
- To toggle to the SDM mode, use the standard customer RC-transmitter and key in the code **062596**, directly followed by the **MENU** key.

How to exit

Use one of the following methods:

- Switch the set "off" (with the Mains switch or by pulling the Mains cord).
  Note: new alignment settings are always stored, even when item "store" was not activated!
- Switch the set to "standby" by pressing the power button on the remote control transmitter.
  Note: new alignment settings are always stored, even when item "store" was not activated!
- Use the standard RC-transmitter and key in the code **00**.
  Note: new alignment settings are not stored (except when item "store" was activated)!

5.2.3 Customer Service Mode (CSM)

Purpose

When a customer is having problems with his TV-set, he can call his dealer or helpdesk. The service technician can than ask the customer to activate the CSM, in order to identify the status of the set. Now, the service technician can judge the severness of the complaint. In many cases, he can advise the customer how to solve the problem, or he can decide if it is necessary to visit the customer.
The CSM is a read only mode; therefore, modifications in this mode are not possible.

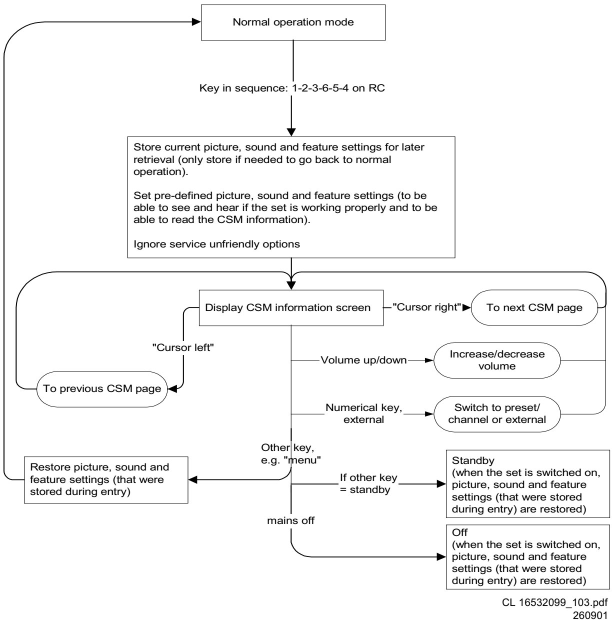
Normal operation mode
Key in sequence: 1-2-3-6-5-4 on RC
Store current picture, sound and feature settings for later retrieval (only store if needed to go back to normal operation).
Set pre-defined picture, sound and feature settings (to be able to see and hear if the set is working properly and to be able to read the CSM information).
Ignore service unfriendly options
Display CSM information screen
"Cursor right"
To next CSM page
"Cursor left"
To previous CSM page
Volume up/down
Increase/decrease volume
Numerical key, external
Switch to preset/ channel or external
Other key, e.g. "menu"
Restore picture, sound and feature settings (that were stored during entry)
If other key = standby
Standby (when the set is switched on, picture, sound and feature settings (that were stored during entry) are restored)
mains off
Off (when the set is switched on, picture, sound and feature settings (that were stored during entry) are restored)
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Figure 5-3 CSM Flowchart

How to enter

Use the standard customer RC-transmitter and key in the code **123654**.
When CSM is entered, the values of brightness, contrast, etc. are set to 50% (of max. value), and volume is set to 25%, to ensure that you always have a picture and sound.

After switching "on" the Customer Service Mode, the following screen will appear:

Table 5-2 CSM Menu

Customer Service Menu 1	
1 - Type Nr. - AG Code	32FD9944/01S-AG02 (example)
2 - SW Version OTC	AAAABC-X.Y_xxxxx
3 - SW Version PW	AAAABC-X.Y_xxxxx
4 - SW Version EPLD	AAAABC-X.Y_xxxxx
5 - Code 1	xx xx xx xx xx
6 - Code 2	xx xx xx xx xx
7 - Volume	xx
8 - Brightness	xx
9 - Contrast	xx

	Customer Service Menu 2
10 - Color	xx
11 - Tint	xx
12 - Sharpness	xx
13 - Soundmode	xx
14 - Source	xx
15 - AV Mute	xx

1. **TYPE NR. - AG CODE.** Gives the commercial type number of the monitor, e.g. xxFD9954/01S. The AG CODE is not implemented.
2. **SW VERSION OTC** (AAAABC-X.Y-xxxxx)
   Note: You will find details of the latest software versions in the chapter "Software Survey" of the "Product Survey - Colour Television" publication, which is published four times each year.
   - A = the chassis name (FM23 for **all** displays).
   - B = the region (E= Europe, A= Asia Pacific, U= NAFTA, L= LATAM or G = Global).
   - C = the configuration name (B= Basic, E= Enhanced).
   - X = the main software version number.
   - Y = the sub software version number.
   - x = last five digits of 12nc code.
3. **SW VERSION PW** (AAAABC-X.Y-xxxxx). See description above.
4. **SW VERSION EPLD** (AAAABC-X.Y-xxxxx). See description above.
5. **CODE 1.** Gives the last five errors of the error buffer. The last detected error is displayed at the most left position. The errors are displayed as 2 digit numbers and separated by a space. When less than 10 errors occurred, the rest of the line(s) is empty. In case of no errors, the text NO ERRORS is displayed behind menu item CODE 1. See paragraph "Error Buffer" for a description.
6. **CODE 2.** Gives the first five errors of the error buffer. The last detected error is displayed at the most left position.
7. **VOLUME.** Gives the last volume status for the selected source, as set by the customer.
8. **BRIGHTNESS.** Gives the last brightness status for the selected source, as set by the customer.
9. **CONTRAST.** Gives the last contrast status for the selected source, as set by the customer.
10. **COLOR** (not present in *Basic* configuration). Gives the last colour status for the selected source, as set by the customer.
11. **TINT** (only for *NTSC Enhanced* configuration). Gives the last tint status for the selected source, as set by the customer.
12. **SHARPNESS.** Gives the last sharpness status for the selected source, as set by the customer.
13. **SOUND MODE.** Gives the selected sound mode, as set by the customer.
14. **SOURCE.** Gives the selected source, as set by the customer.
15. **AV MUTE.** Indicates if AV Mute is "on" or "off".

How to navigate

Use one of the following methods:
- Switch to the other CSM page with the "cursor left/right" keys on the remote control.
- You can increase/decrease volume with the "volume up/ down" keys on the remote control.
- You can switch to another source with the "num / ext" keys on the remote control.

How to exit

Use one of the following methods:
- Press the MENU key of the remote control transmitter.
- Switch the set to "standby" with the Power switch on the remote control.
- Switch the set "off" with the Mains power switch on the set.

5.3 Problems and Solving Tips (Related to CSM)

5.3.1 Picture Problems

Note: Below described problems are all related to the monitor settings. The procedures to change the value (or status) of the different settings are described.

Picture too dark or too bright

Increase/decrease the "brightness" and/or the "contrast" value when the picture improves after you have switched on the Customer Service Mode. The new value is automatically stored.

White line around picture elements and text
Decrease the "sharpness" value when the picture improves after you have switched on the Customer Service Mode. The new value is automatically stored.

Snowy picture and/or unstable picture
A scrambled or decoded signal is received.

Black and white picture
Increase the "colour" value when the picture improves after you have switched on the Customer Service Mode. The new value is automatically stored.

Menu text not sharp enough
Decrease the "contrast" value when the picture improves after you have switched on the Customer Service Mode. The new value is automatically stored.

5.3.2 Sound Problems

No sound from left or right speaker
Check item VOLUME in the CSM mode. If value is low, increase the volume level. The new value is automatically stored.

No sound or sound too loud (after channel change/ switching on)
Increase/decrease the "volume" level when the volume is OK after you switched on the CSM. The new value is automatically stored.

5.4 ComPair

5.4.1 Introduction

ComPair (Computer Aided Repair) is a service tool for Philips Consumer Electronics products. ComPair is a further development on the European DST (Dealer Service Tool), which allows faster and more accurate diagnostics. ComPair has three big advantages:

- ComPair helps you to quickly get an understanding on how to repair the chassis in a short time by guiding you systematically through the repair procedures.
- ComPair allows very detailed diagnostics (on I2C level) and is therefore capable of accurately indicating problem areas. You do not have to know anything about I2C commands yourself because ComPair takes care of this.
- ComPair speeds up the repair time since it can automatically communicate with the chassis (when the microprocessor is working) and all repair information is directly available. When ComPair is installed together with the SearchMan electronic manual of the defective chassis, schematics and PWBs are only a mouse click away.

5.4.2 Specifications

ComPair consists of a Windows based faultfinding program, and an RS232 cable between PC and the (defective) product.

The ComPair faultfinding program is able to determine the problem of the defective monitor. ComPair can gather diagnostic information in two ways:

- **Automatic** (by communication with the monitor): ComPair can automatically read out the contents of the entire error buffer. Diagnosis is done on I2C level. ComPair can send and receive commands to the micro controller of the monitor, and so can access the I2C bus of the monitor. In this way, it is possible for ComPair to communicate (read and write) to devices on the I2C busses of the FTV monitor.
- **Manually** (by asking questions to you): Automatic diagnosis is only possible if the micro controller of the monitor is working correctly and only to a certain extend. When this is not the case, ComPair will guide you through the faultfinding tree by asking you questions (e.g. *Does the screen give a picture? Click on the correct answer: YES / NO*) and showing you examples (e.g. *Measure test-point F7 and click on the correct oscillogram you see on the oscilloscope*). You can answer by clicking on a link (e.g. text or a waveform picture) that will bring you to the next step in the faultfinding process.

By a combination of automatic diagnostics and an interactive question / answer procedure, ComPair will enable you to find most problems in a fast and effective way.

Beside fault finding, ComPair provides some additional features like:

- Software upgrading (upload possible to OTC and PW Scaler).
- Emulation of the (European) Dealer Service Tool (DST).
- If both ComPair and SearchMan (Electronic Service Manual) are installed, all the schematics and the PWBs of the set are available by clicking on the appropriate hyperlink.
  Example: Measure the DC-voltage on capacitor C2228 (Schematic/Panel) of the SCAVIO panel. Click on the "Panel" hyperlink to automatically show the PWB with a highlighted capacitor C2568. Click on the "Schematic" hyperlink to automatically show the position of the highlighted capacitor.

5.4.3 How to Connect

1. First, install the ComPair Browser software on your PC (read the installation instructions carefully).
2. Connect an RS232 interface cable between a free serial (COM) port on your PC and the RS232 connector on the plasma monitor.
3. Switch the plasma monitor "off" and "on" again (with the Mains switch).
4. Start the ComPair program and follow the instructions.

Note: once the set is in ComPair mode, the front LED will blink red, at a frequency of 0.3 Hz.

5.4.4 How to Order

ComPair order codes:

- Starter kit ComPair32 software (registration version): 3122 785 60040.
- Starter kit SearchMan32 software: 3122 785 60050.
- ComPair32 CD (update): 3122 785 60070.
- SearchMan32 CD (update): 3122 785 60080 (year 2002), 3122 785 60120 (year 2003). If you encounter any problems, contact your local support desk.

Note: The RS232 cable is not included. It is a standard cable (9p sub-D male-to-female) that can be obtained by a computer store. It is supplied however with the ComPair interface (4822 727 21631), necessary for servicing other Philips TVs.

5.5 Error Buffer

The error code buffer contains all detected errors since the last time the buffer was erased. The buffer is written from left to right. When an error occurs that is not yet in the error code buffer, it is written at the left side and all other errors shift one position to the right.

5.5.1 How to Read the Error Buffer

Use one of the following methods:

- On screen via the SAM (only if you have a picture). Examples:
  - Errors: **6 0 0 0 0,** error code 6 is the last and only detected error.

  - Errors: **9 6 0 0 0,** error code 6 was first detected and error code 9 is the last detected (newest) error.
- Via the blinking LED procedure (when you have no picture). See paragraph "The Blinking LED Procedure".
- Via ComPair.

5.5.2 How to Clear the Error Buffer

The error code buffer is cleared in the following cases:

- By activation of the RESET ERROR BUFFER command in the SAM menu.
- When you transmit the code **062599** with a standard remote control transmitter.

5.5.3 Error Codes

Table 5-3 Error code overview

Error	Device	Description	Item	Diagr.
1	TEA6422D	Audio switch (only Enhanced)	7798	SC13
2	MSP3451G	Sound processor	7812	SC14
3	PCF8574-SCAVIO	I/O expander SCAVIO	7540	SC8
4	PCF8591	AD-DA expander	7530	SC8
5	FS6377	Clock generator	7570	SC9
6	PCF8574-PSU	I/O expander PSU	7370	P3
7	24C16 OTC	NVM OTC	7430	SC7
8	24C16 PW	NVM PW	7580	SC9
9	SAA7118	Video decoder (only Enhanced)	7225	SC5
10	AD9887	ADC/TMDS receiver	7170	SC4
11	SDA9400	De-interlacer (only Enhanced)	7280	SC5
12	EP1K30QC	EPLD processor	7656	SC11
13	PDP	Display I2C error		
14	PDP H2-version (FHP)	The "high brightness" mode (only for H2) does not function		
15	LM75A	Temperature sensor I2C error (only for 37-inch)	7372	P3
20	Download comm.	Errors during downloading		
21	CSP comm.	CSP time-out error		
30	PDP	Display HW error		
31	PDP	Display warning code (e.g. loose connector or defective PSU)		
40	Temperature alarm	Detection of over-temperature		
70	V_s overvoltage	Overvoltage on V_s, V_a, +3V3, +5V or a combination	7341	P3
71	V_s undervoltage	Undervoltage on V_s	7308A/B	P3
72	V_a undervoltage	Undervoltage on V_a	7308C/D	P3
73	+5V undervoltage	Undervoltage on +5V	7330A/B	P3
74	+3V3 undervoltage	Undervoltage on +3V3	7330C/D	P3
75	DC-PROT	Audio amplifier protection	7362	P3
76	TEMP-PSU	Over-temperature in PSU	7366A	P3
77	Protection with reason unknown	No valid protection can be read, but protection is active (PSU)		
78	Protection after several retries	PW Scaler will not start comm. with OTC after several retries		
9x	OTC	Internal OTC error (replace OTC)	7383	SC7

Notes:

- In case of non-intermittent faults, clear the error buffer before you begin the repair. This to ensure that old error codes are no longer present.
- If possible, check the entire contents of the error buffer. In some situations, an error code is only the result of another error code and not the actual cause (e.g., a fault in the protection detection circuitry can also lead to a protection).

5.6 The Blinking LED Procedure

Via this procedure, you can make the contents of the error buffer visible via the front LED (orange colour). This is especially useful when there is no picture. When no errors are present, the LED will stay green.

When the SDM is entered, or when code **062500** is entered with the remote control, the LED will blink the contents of the error-buffer.

Error-codes ≥ 10 are shown as follows:

1. "n" long blinks of 750 ms, which is/are an indication of the decimal digit,
2. a pause of 1.5 s,
3. "n" short blinks (n = 1-9),
4. when all the error-codes are displayed, the sequence finishes with a LED blink of 3 s,
5. the sequence starts again.

Example of error buffer: **12 9 6 0 0**
After entering SDM:

1. 1 long blink of 750 ms followed by a pause of 1.5 s,
2. 2 short blinks followed by a pause of 3 s,
3. 9 short blinks followed by a pause of 3 s,
4. 6 short blinks followed by a pause of 3 s,
5. 1 long blink of 3 s to finish the sequence,
6. the sequence starts again.

5.7 Protections

You can read the error codes of the error buffer via the service menu (SAM), the blinking LED procedure, or via ComPair. If a fault situation is detected an error code will be generated and if necessary, the set will be put in the protection mode. Blinking of the red LED at a frequency of 5 Hz indicates the protection mode.
In some error cases, the microprocessor does not put the set in the protection mode. The error codes are indicated by an orange front LED.

To get a quick diagnosis the chassis has three service modes implemented:

- The Customer Service Mode (CSM): easy way to read out the status of the set.
- The Service Default Mode (SDM): start-up of the set in a predefined way.
- The Service Alignment Mode (SAM): adjustment of the set via a menu and with the help of test patterns.

5.8 Repair Tips

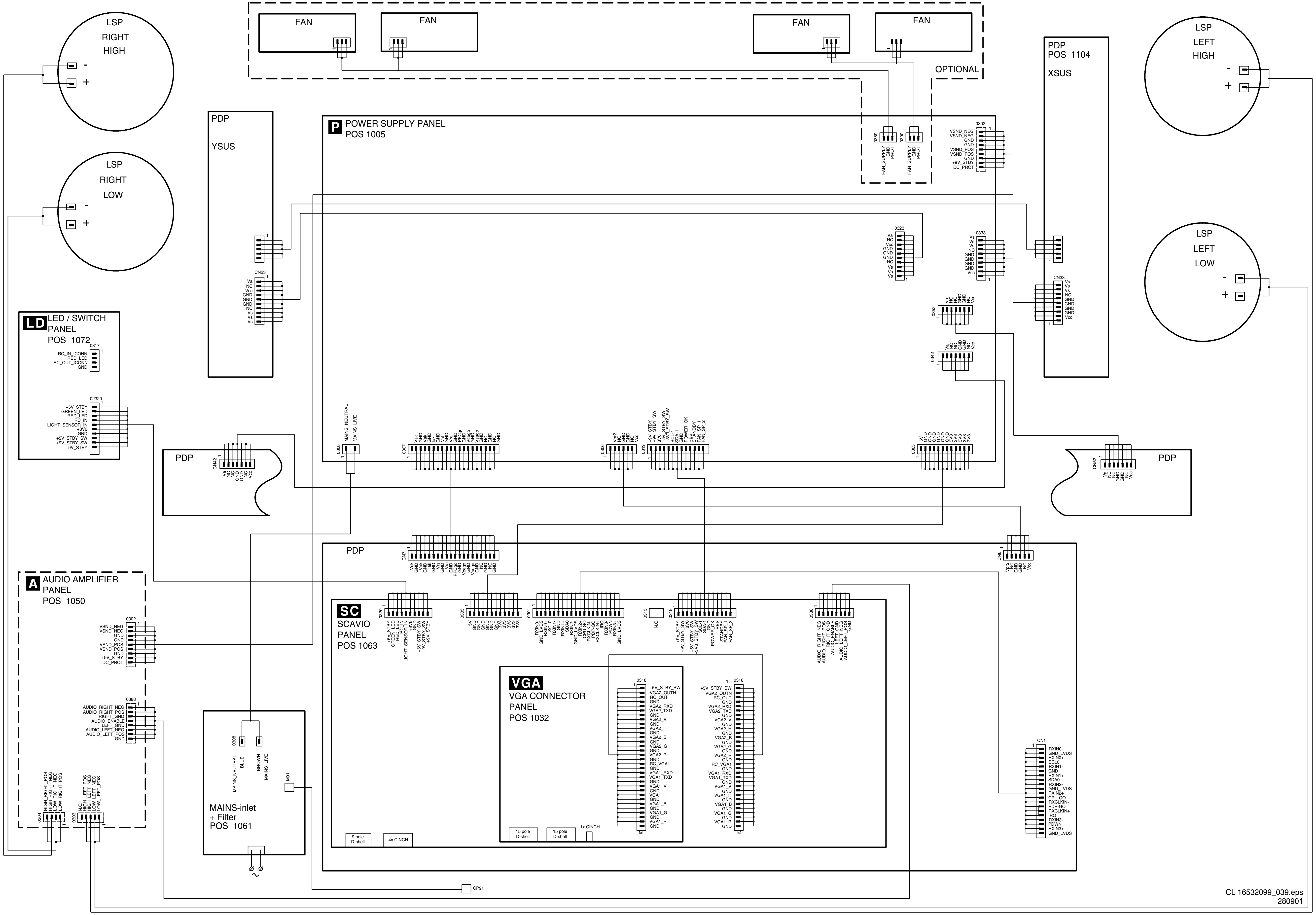
Below some failure symptoms are given, followed by a repair tip.

- **Error code indicates an under- or over voltage protection (errors 70 - 74).** Possible causes:
  - A short-circuit present on PSU.
  - A short-circuit present in PSU load circuit.
  - The converter is not functioning (no start-up, or non short-circuit failure).
- **Set starts up, but switches "off" soon.**
  1. Check the PSU outputs. If no output at all, verify the Power Factor Corrector (= PFC or pre-conditioner) e.g. the relays. When PFC is not switching, the LLC is actively held "off".
  2. If the PFC works, check the V_cego.
  3. If V_cego is high, check V_s on the LLC (Vs_unsw).
  4. If there is no V_s, check pin 15.
  5. If the voltage is OK, check pins 12 and 14.
  6. If there are no pulses, check controller pin 10.
  7. If pin 10 < 1 V, the IC is probably defect.
- **If fuse 1004 (diagram P6) is blown.** Check items 7005 and 7006. If **one** of them is defect, **replace both**!
- **If fuse 1400 (diagram P2) is blown.** Check diode bridge 6600, diodes 6605 and 6606, and MOSFET 7610 (diagram P5).
- **The set does not react on the Remote Control Transmitter.** If the monitor is set (by accident or deliberate) in ICONN-mode (via SAM - Options), and there is no ICONN-Box connected, the RC-signal line to the OTC is interrupted. This can be solved by connecting pin 8 and 9 of the RS232 connector at the rear of the monitor.

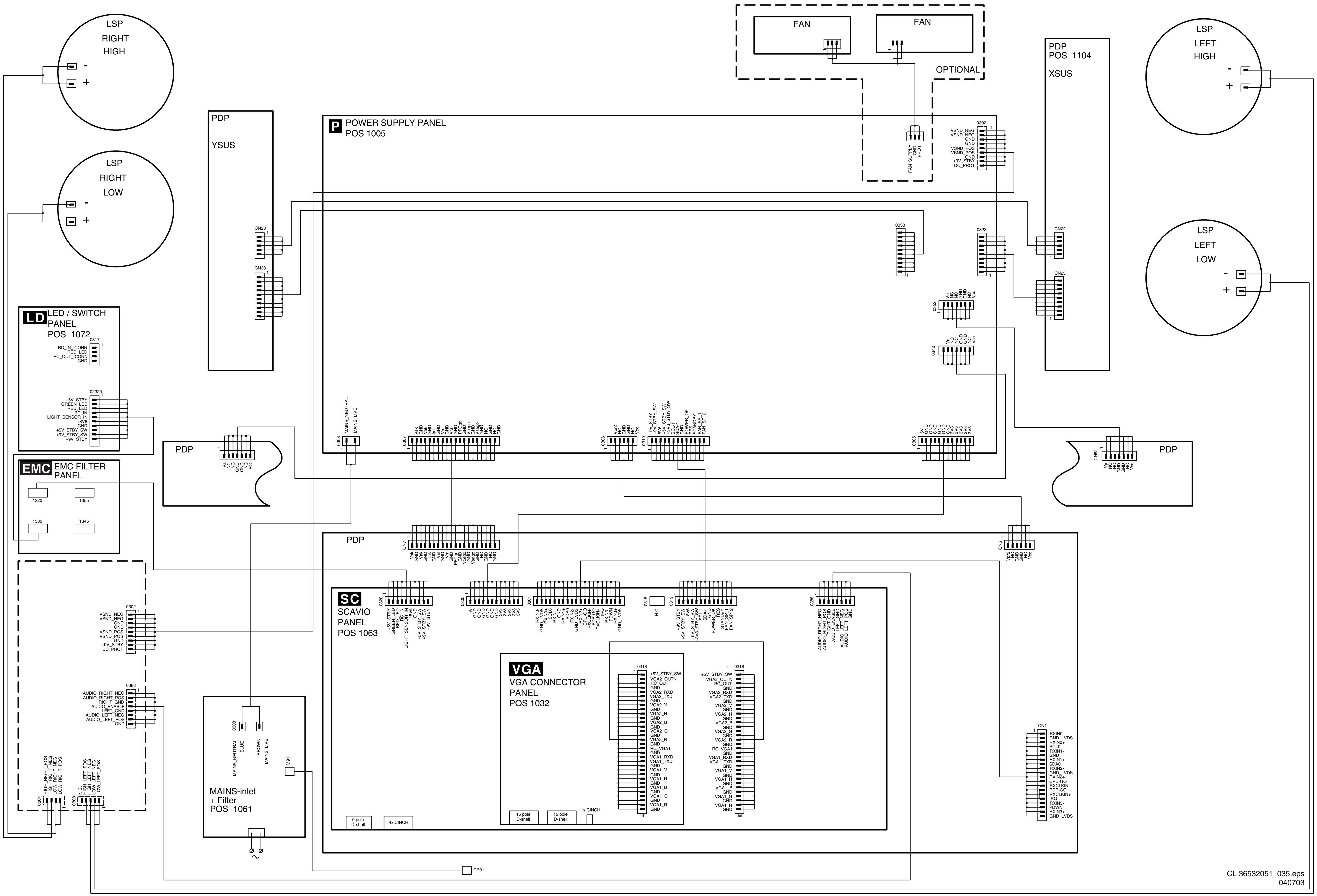
Personal Notes:

6. Block Diagrams, Testpoint Overview, and Waveforms

Wiring Diagram (FM23 AC/FM24 AB)


LSP RIGHT HIGH
LSP RIGHT LOW
LSP LEFT HIGH
LSP LEFT LOW
FAN
FAN
FAN
FAN
OPTIONAL
PDP YSUS
PDP POS 1104 XSUS
P POWER SUPPLY PANEL POS 1005
0389 FAN_SUPPLY GND PROT
0390 FAN_SUPPLY GND PROT
0302 VSND_NEG VSND_NEG GND GND VSND_POS VSND_POS GND +9V_STBY DC_PROT
0323 Va NC Vcc GND GND GND NC Vs Vs Vs
0333 Vs Vs Vs NC GND GND GND GND Vcc
CN23 Va NC Vcc GND GND GND NC Vs Vs Vs
CN33 Vs Vs Vs NC GND GND GND GND Vcc
0352 Va NC GND GND NC Vcc
0342 Va NC GND GND NC Vcc
LD LED / SWITCH PANEL POS 1072
0317 RC_IN_ICONN RED_LED RC_OUT_ICONN GND
02320 +5V_STBY GREEN_LED RED_LED RC_IN LIGHT_SENSOR_IN +8V6 GND +5V_STBY_SW +9V_STBY_SW +9V_STBY
PDP
CN42 Va NC GND GND NC Vcc
0308 MAINS_NEUTRAL MAINS_LIVE
0307 Vsk GND Vsk GND Vsk GND Vra GND Vra GND PFCgo GND Vcego GND Vsego GND NC GND NC GND
0306 Vpr2 NC GND GND NC Vcc
0319 +9V_STBY +9V_STBY_SW 8V6 +5V_STBY_SW +3V3_STBY_SW SCL-1 SDA-1 GND POWER_OK RES STANDBY FAN_SP_1 FAN_SP_2
0305 5V GND GND GND GND GND 3V3 3V3 3V3 3V3
PDP
CN62 Va NC GND GND NC Vcc
PDP
CN7 Vsk GND Vsk GND Vsk GND Vra GND Vra GND PFCgo GND Vcego GND Vsego GND NC GND NC GND
CN6 Vpr2 NC GND GND NC Vcc
A AUDIO AMPLIFIER PANEL POS 1050
0302 VSND_NEG VSND_NEG GND GND VSND_POS VSND_POS GND +9V_STBY DC_PROT
0388 AUDIO_RIGHT_NEG AUDIO_RIGHT_POS RIGHT_GND AUDIO_ENABLE LEFT_GND AUDIO_LEFT_NEG AUDIO_LEFT_POS GND
0304 HIGH_RIGHT_POS HIGH_RIGHT_NEG LOW_RIGHT_NEG LOW_RIGHT_POS
0303 N.C. HIGH_LEFT_POS HIGH_LEFT_NEG LOW_LEFT_NEG LOW_LEFT_POS
SC SCAVIO PANEL POS 1063
0320 +5V_STBY GREEN_LED RED_LED RC_IN +8V6 LIGHT_SENSOR_IN GND +5V_STBY_SW +9V_STBY_SW +9V_STBY
0305 5V GND GND GND GND GND 3V3 3V3 3V3 3V3
0301 RXIN0- GND_LVDS RXIN0+ SCL0 RXIN1- GND RXIN1+ SDA0 RXIN2- GND_LVDS RXIN2+ CPU-GO RXCLKIN- PDP-GO RXCLKIN+ IRQ RXIN3- PDWN RXIN3+ GND_LVDS
0315 N.C.
0319 +9V_STBY +9V_STBY_SW 8V6 +5V_STBY_SW +3V3_STBY_SW SCL-1 SDA-1 GND POWER_OK RES STANDBY FAN_SP_1 FAN_SP_2
0388 AUDIO_RIGHT_NEG AUDIO_RIGHT_POS RIGHT_GND AUDIO_ENABLE LEFT_GND AUDIO_LEFT_NEG AUDIO_LEFT_POS GND
VGA VGA CONNECTOR PANEL POS 1032
0318 +5V_STBY_SW VGA2_OUTN RC_OUT GND VGA2_RXD VGA2_TXD GND VGA2_V GND VGA2_H GND VGA2_B GND VGA2_G GND VGA2_R GND RC_VGA1 GND VGA1_RXD VGA1_TXD GND VGA1_V GND VGA1_H GND VGA1_B GND VGA1_G GND VGA1_R GND
9 pole D-shell
4x CINCH
15 pole D-shell
15 pole D-shell
1x CINCH
CN1 RXIN0- GND_LVDS RXIN0+ SCL0 RXIN1- GND RXIN1+ SDA0 RXIN2- GND_LVDS RXIN2+ CPU-GO RXCLKIN- PDP-GO RXCLKIN+ IRQ RXIN3- PDWN RXIN3+ GND_LVDS
0308 MAINS_NEUTRAL BLUE BROWN MAINS_LIVE
M61
MAINS-inlet + Filter POS 1061
CP91
CL 16532099_039.eps
280901

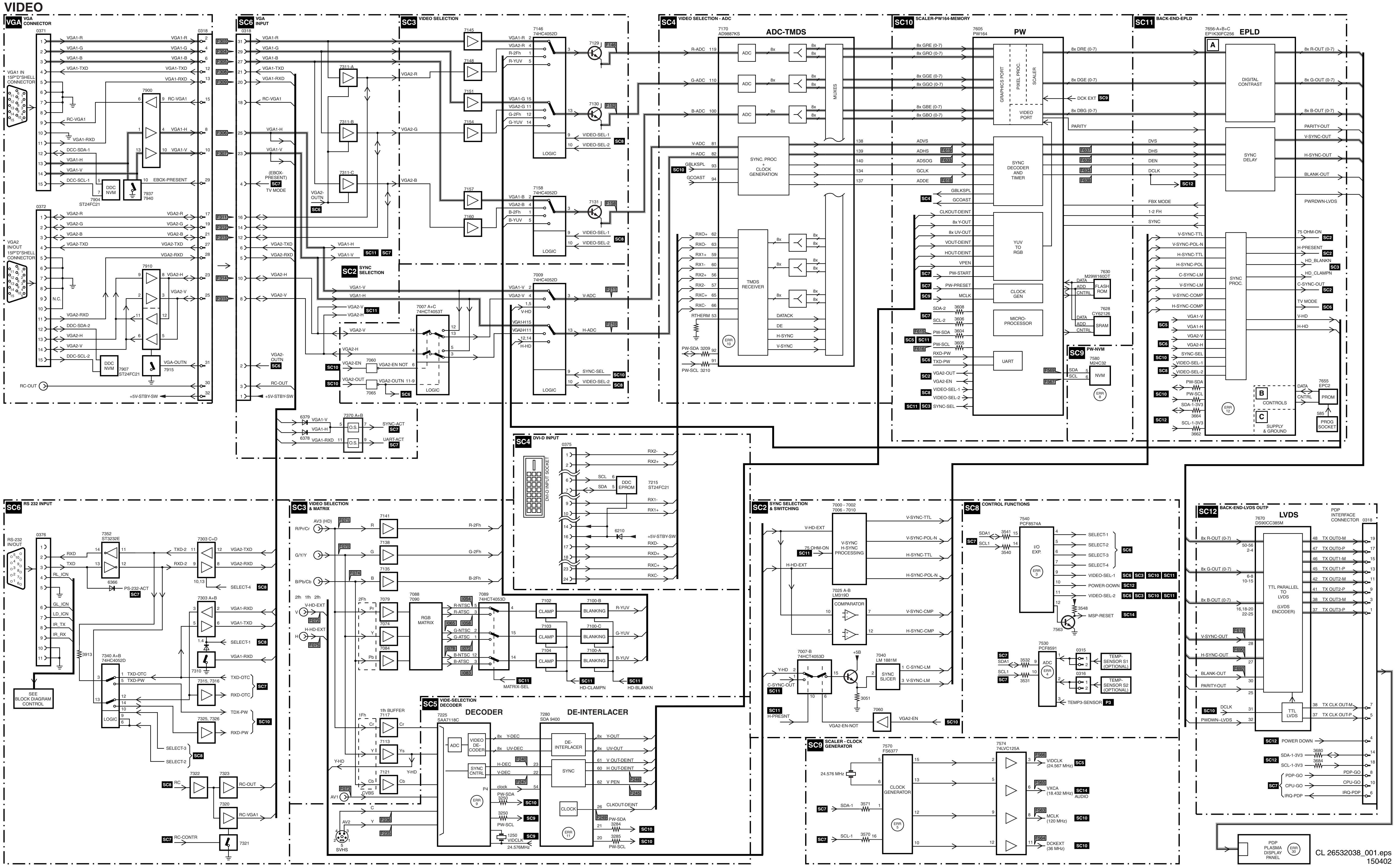
Wiring Diagram (FM33 AA)


LSP
RIGHT
HIGH
LSP
RIGHT
LOW
LSP
LEFT
HIGH
LSP
LEFT
LOW
FAN
FAN
OPTIONAL
PDP
YSUS
CN23
CN33
P POWER SUPPLY PANEL
POS 1005
0302
VSND_NEG
VSND_NEG
GND
GND
VSND_POS
VSND_POS
GND
+9V_STBY
DC_PROT
FAN_SUPPLY
GND
PROT
0333
0323
0352
0342
Va
NC
GND
GND
NC
Vcc
PDP
POS 1104
XSUS
CN22
CN23
LD LED / SWITCH
PANEL
POS 1072
0317
RC_IN_ICONN
RED_LED
RC_OUT_ICONN
GND
02320
+5V_STBY
GREEN_LED
RED_LED
RC_IN
LIGHT_SENSOR_IN
+8V6
GND
+5V_STBY_SW
+9V_STBY_SW
+9V_STBY
EMC EMC FILTER
PANEL
1320
1355
1330
1345
PDP
PDP
CN52
0308
MAINS_NEUTRAL
MAINS_LIVE
0307
0306
0319
0305
PDP
CN7
CN6
SC
SCAVIO
PANEL
POS 1063
0320
0305
0301
0315
N.C.
0319
0388
AUDIO_RIGHT_NEG
AUDIO_RIGHT_POS
RIGHT_GND
AUDIO_ENABLE
LEFT_GND
AUDIO_LEFT_NEG
AUDIO_LEFT_POS
GND
VGA
VGA CONNECTOR
PANEL
POS 1032
0318
+5V_STBY_SW
VGA2_OUTN
RC_OUT
VGA2_RXD
VGA2_TXD
VGA2_V
VGA2_H
VGA2_B
VGA2_G
VGA2_R
RC_VGA1
VGA1_RXD
VGA1_TXD
VGA1_V
VGA1_H
VGA1_B
VGA1_G
VGA1_R
GND
CN1
RXIN0-
GND_LVDS
RXIN0+
SCL0
RXIN1-
GND
RXIN1+
SDA0
RXIN2-
GND_LVDS
RXIN2+
CPU-GO
RXCLKIN-
PDP-GO
RXCLKIN+
IRQ
RXIN3-
PDWN
RXIN3+
GND_LVDS
9 pole
D-shell
4x CINCH
15 pole
D-shell
15 pole
D-shell
1x CINCH
0304
HIGH_RIGHT_POS
HIGH_RIGHT_NEG
LOW_RIGHT_NEG
LOW_RIGHT_POS
0303
N.C.
HIGH_LEFT_POS
HIGH_LEFT_NEG
LOW_LEFT_NEG
LOW_LEFT_POS
0308
MAINS_NEUTRAL
BLUE
BROWN
MAINS_LIVE
M91
MAINS-inlet
+ Filter
POS 1061
CP91

CL 36532051_035.eps
040703

Block Diagram Video (FM23 AC/FM24 AB/FM33 AA)

VIDEO


VGA VGA CONNECTOR
VGA1 IN 15P"D"SHELL CONNECTOR
VGA2 IN/OUT 15P"D"SHELL CONNECTOR
SC6 VGA INPUT
SC3 VIDEO SELECTION
SC2 SYNC SELECTION
SC4 VIDEO SELECTION - ADC
ADC-TMDS
SYNC. PROC + CLOCK GENERATION
TMDS RECEIVER
MUXES
SC10 SCALER-PW164-MEMORY
PW
GRAPHICS PORT
PIXEL PROC.
SCALER
VIDEO PORT
SYNC DECODER AND TIMER
YUV TO RGB
CLOCK GEN
MICRO-PROCESSOR
UART
SC9 PW-NVM
NVM
FLASH ROM
SRAM
SC11 BACK-END-EPLD
EPLD
DIGITAL CONTRAST
SYNC DELAY
SYNC PROC
CONTROLS
SUPPLY & GROUND
PROM
PROG SOCKET
SC4 DVI-D INPUT
DVI-D INPUT SOCKET
DDC EPROM
SC6 RS 232 INPUT
RS-232 IN/OUT
SEE BLOCK DIAGRAM CONTROL
SC3 VIDEO SELECTION & MATRIX
RGB MATRIX
CLAMP
BLANKING
SC5 VIDEO-SELECTION DECODER
DECODER
VIDEO DE-CODER
ADC
SYNC CNTRL
DE-INTERLACER
SYNC
CLOCK
SC2 SYNC SELECTION & SWITCHING
V-SYNC H-SYNC PROCESSING
COMPARATOR
SYNC SLICER
SC8 CONTROL FUNCTIONS
I/O EXP.
TEMP-SENSOR S1 (OPTIONAL)
TEMP-SENSOR S2 (OPTIONAL)
SC9 SCALER - CLOCK GENERATOR
CLOCK GENERATOR
SC12 BACK-END-LVDS OUTP
LVDS
TTL PARALLEL TO LVDS (LVDS ENCODER)
TTL LVDS
PDP INTERFACE CONNECTOR
PDP PLASMA DISPLAY PANEL
CL 26532038_001.eps
150402

Testpoint Overview: SCAVIO Panel

F070 C1	F201 C5	F245 B5	F316 B3	F391 B7	F418 B7	F467 B8	F495 B8	F542 A7	F569 A5	F596 A5	F623 B6	F650 A7	F684 A6	F815 A1	I017 A1	I052 C2	I079 C1	I115 A2	I144 B2	I207 C3	I244 A3	I271 B3	I298 C8	I400 A7	I470 B6	I539 C1	I566 C2	I593 C8	I670 B1
F071 C1	F202 B4	F246 B5	F317 B3	F392 B7	F419 B7	F468 B8	F496 B8	F543 A7	F570 A5	F597 A5	F624 B5	F651 A7	F685 A6	F816 A1	I018 B1	I053 B2	I080 C2	I116 B1	I145 B2	I218 B2	I245 C8	I272 B4	I299 C8	I401 A3	I471 A5	I540 C1	I567 C7	I594 C8	I671 B1
F072 C1	F203 C5	F247 B5	F318 B3	F393 B7	F420 B8	F469 B8	F497 A8	F544 A7	F571 A5	F598 A5	F625 B5	F652 A6	F686 A6	F817 A1	I019 B1	I054 B1	I081 C1	I117 B2	I146 B2	I219 B8	I246 C8	I273 B7	I300 C8	I402 A3	I475 B7	I541 C7	I568 C2	I595 C6	I672 B1
F073 C1	F210 C3	F249 B3	F319 A2	F394 B7	F421 B7	F470 B8	F506 B8	F545 A7	F572 A5	F599 A5	F626 B5	F653 A7	F690 A6	F820 B1	I020 B1	I055 B1	I082 C1	I118 B2	I147 A3	I220 B2	I247 A3	I274 A4	I301 C8	I403 A3	I480 A5	I542 C7	I569 C6	I596 C6	I673 B1
F074 C1	F211 C3	F250 B2	F320 C8	F395 B7	F422 B8	F471 B8	F507 B8	F546 A2	F573 A5	F600 A5	F627 A5	F654 B8	F691 A6	F870 A1	I021 A1	I056 C1	I083 B1	I119 B2	I148 B2	I221 C8	I248 A3	I275 B4	I344 B6	I404 C8	I481 A6	I543 C7	I570 C6	I597 C1	I674 B1
F075 C1	F216 C3	F251 B2	F321 C8	F396 B7	F423 C7	F472 B8	F520 B6	F547 A2	F574 A5	F601 A5	F628 A4	F655 A8	F692 A6	F871 A1	I022 A1	I057 C1	I084 C3	I120 A2	I149 A3	I222 C8	I249 C8	I276 B3	I345 B6	I405 A3	I482 A5	I544 C1	I571 C7	I598 C7	I675 A1
F076 C1	F220 C3	F260 C2	F322 C8	F397 B7	F424 B7	F473 B8	F521 B7	F548 A2	F575 A5	F602 A5	F629 A5	F656 A7	F710 C6	F872 A1	I023 B1	I058 B1	I085 C1	I121 A2	I150 B1	I223 C8	I250 A3	I277 B6	I346 B7	I406 A4	I485 A6	I545 C7	I572 C7	I599 C6	I676 A1
F089 B1	F221 B2	F261 C3	F323 B3	F398 B7	F425 B6	F474 B8	F522 B7	F549 A2	F576 A5	F603 A5	F630 A5	F657 A8	F711 C7	F873 A1	I024 B1	I059 C1	I086 C1	I122 B1	I151 B4	I224 B2	I251 A3	I278 A3	I347 B7	I407 A4	I486 A5	I546 C7	I573 C7	I650 B1	I678 B1
F146 B4	F222 B3	F262 C3	F324 A5	F399 B7	F426 C6	F475 B8	F523 B7	F550 A3	F577 A5	F604 A5	F631 A5	F658 A8	F712 C7	F874 A1	I025 A1	I060 C1	I087 C1	I123 B2	I152 C4	I225 B8	I252 C8	I279 C6	I348 B7	I408 A2	I501 A7	I547 C6	I574 C6	I651 B1	I680 A7
F152 B4	F223 B3	F263 B3	F325 A2	F400 B7	F427 A7	F476 B8	F524 B8	F551 A3	F578 A5	F605 A5	F632 A5	F659 A8	F713 C7	F875 A1	I026 A2	I061 B2	I088 C1	I124 B2	I153 C4	I226 C8	I253 A3	I280 A3	I349 B7	I409 A2	I502 A8	I548 C7	I575 C6	I652 B1	I681 A7
F158 B4	F224 C3	F264 C3	F326 B2	F401 B7	F428 A7	F477 C8	F525 B6	F552 A3	F579 A5	F606 A4	F633 B5	F660 B6	F714 C7	I001 A2	I027 A1	I062 C2	I090 B1	I125 B2	I154 C4	I227 C8	I254 A3	I281 B4	I350 B6	I410 A8	I503 A8	I549 C6	I576 C1	I653 B1	I682 A7
F162 C4	F225 A1	F265 C3	F327 C8	F402 B7	F429 C8	F478 B8	F526 B6	F553 A3	F580 A5	F607 A4	F634 A6	F661 B5	F715 C7	I0010 C1	I028 B8	I063 C1	I099 C1	I126 A2	I155 B4	I228 B8	I255 A3	I282 A3	I351 B6	I411 A8	I504 A7	I550 C7	I577 C1	I654 B1	I683 A7
F170 C5	F226 A1	F300 A4	F328 C8	F403 B7	F430 B6	F479 C8	F527 A2	F554 A3	F581 A5	F608 A4	F635 B5	F662 B5	F716 C7	I002 C1	I029 A1	I064 B1	I100 C2	I127 A2	I156 B4	I229 C8	I256 C8	I283 A3	I352 A8	I412 A8	I505 A7	I551 C7	I578 C7	I655 B1	I685 A6
F171 C4	F227 A1	F301 B4	F329 C8	F404 B7	F431 B7	F480 A8	F528 A2	F555 A3	F582 A5	F609 A4	F636 B6	F670 A7	F717 C1	I003 C1	I030 B1	I065 B1	I101 B2	I128 B2	I157 B4	I230 A8	I257 C8	I284 B6	I353 B7	I413 A8	I506 A7	I552 C7	I579 C7	I656 B1	I691 B1
F172 C3	F228 A1	F303 A3	F330 C8	F405 B7	F432 B8	F481 A8	F529 A7	F556 A3	F583 A4	F610 A4	F637 B6	F671 A7	F718 C2	I004 B1	I031 B1	I066 C1	I102 B1	I129 B3	I158 C4	I231 B8	I258 B3	I285 B3	I354 C7	I414 A8	I507 A7	I553 C5	I580 C7	I657 A1	I692 B1
F173 C3	F229 A1	F304 A3	F331 C8	F406 B7	F450 A8	F482 B8	F530 A8	F557 A3	F584 A4	F611 A4	F638 A7	F672 A6	F719 C2	I005 C1	I032 B1	I067 C1	I103 B1	I130 B2	I159 C4	I232 A8	I259 A3	I286 B3	I355 C7	I415 A3	I510 B3	I554 C7	I581 C1	I658 A1	
F174 C4	F230 A1	F305 A3	F380 A7	F407 B7	F451 A8	F483 B8	F531 A8	F558 A3	F585 A4	F612 A4	F639 B6	F673 A6	F720 C2	I006 B1	I033 A1	I068 C1	I104 B1	I131 B1	I160 C3	I233 C8	I260 A3	I287 B3	I356 C8	I416 A8	I511 A7	I555 C5	I582 C6	I659 B1	
F175 C4	F231 A1	F306 A3	F381 A7	F408 B7	F452 A8	F484 B8	F532 A8	F559 A3	F586 A4	F613 A4	F640 A8	F674 A6	F721 C1	I007 C1	I034 C1	I069 B2	I105 C2	I133 B1	I161 C3	I234 C8	I261 A3	I288 A3	I357 C7	I417 A8	I525 B6	I556 C5	I583 C8	I660 B1	
F176 C4	F232 A1	F307 A3	F382 A8	F409 B7	F453 A8	F485 B8	F533 A8	F560 A4	F587 A4	F614 A6	F641 A6	F675 A6	F722 C1	I008 C1	I035 C1	I070 C1	I106 C2	I134 B2	I165 C3	I235 C8	I262 A3	I289 B6	I358 A8	I418 A8	I530 C6	I557 C2	I584 C6	I661 B1	
F177 C4	F233 A1	F308 A3	F383 C7	F410 B7	F459 C8	F486 B8	F534 A8	F561 A4	F588 A4	F615 A7	F642 A8	F676 A6	F723 B7	I009 B1	I036 A5	I071 C2	I107 C2	I135 B2	I166 C3	I236 C8	I263 A4	I290 B6	I359 C8	I419 A8	I531 C6	I558 C2	I585 C6	I662 B1	
F178 C3	F234 C2	F309 A3	F384 B7	F411 B7	F460 B8	F487 B8	F535 A8	F562 A3	F589 A4	F616 A7	F643 A7	F677 A6	F724 C6	I010 C1	I037 A5	I072 B2	I108 B2	I137 B1	I200 C3	I237 C8	I264 A4	I291 B3	I360 C7	I420 A8	I532 C6	I559 C7	I586 C1	I663 B1	
F180 C3	F235 C2	F310 A3	F385 B7	F412 B7	F461 B8	F488 B8	F536 A8	F563 A4	F590 A4	F617 A5	F644 A8	F678 A6	F725 C6	I011 B1	I038 A2	I073 B2	I109 B1	I138 B2	I201 C2	I238 B8	I265 A3	I292 B6	I361 C8	I430 A5	I533 C1	I560 C2	I587 C1	I664 B1	
F181 C3	F236 C3	F311 A3	F386 B7	F413 B7	F462 B8	F489 B8	F537 A8	F564 A4	F591 A5	F618 B4	F645 A7	F679 A6	F810 A1	I012 C1	I039 A1	I074 B2	I110 B1	I139 B2	I202 C2	I239 A8	I266 B3	I293 B4	I362 C8	I431 A5	I534 C1	I561 C6	I588 C6	I665 A1	
F196 B4	F237 B3	F312 B3	F387 B7	F414 B7	F463 B8	F490 B7	F538 A8	F565 A4	F592 A5	F619 B5	F646 A7	F680 A7	F811 B1	I013 C1	I040 A2	I075 B2	I111 B1	I140 B2	I203 C3	I240 B8	I267 A4	I294 B3	I363 B7	I432 A5	I535 C6	I562 C7	I589 C6	I666 A1	
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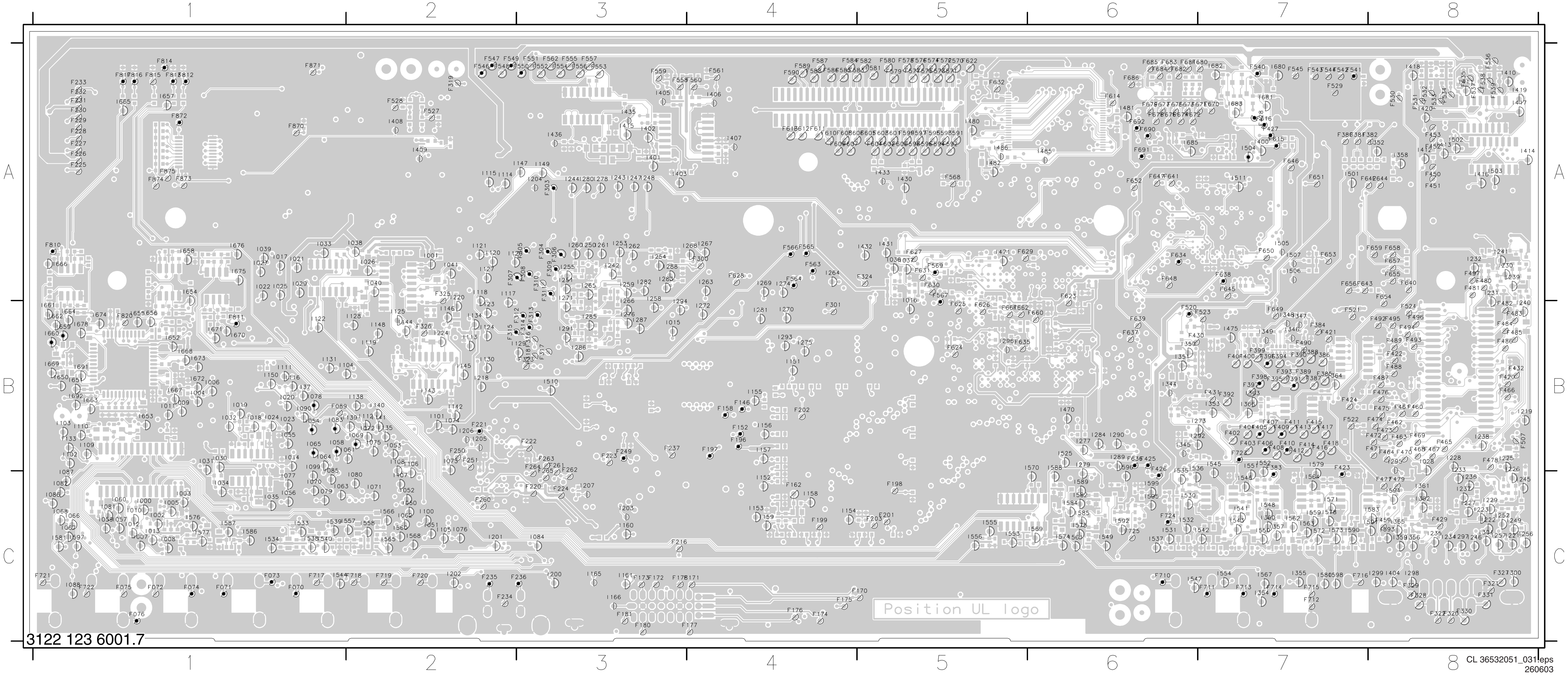
F198 C5	F241 B3	F314 B3	F389 B7	F416 B7	F465 B8	F493 B8	F540 A7	F567 B5	F594 A5	F621 B4	F648 A6	F682 A6	F813 A1	I015 B3	I050 C2	I077 C1	I113 B2	I142 B2	I205 B2	I242 A3	I269 A4	I296 B5	I365 C8	I435 A3	I537 C6	I564 C7	I591 C8	I668 B1	
F199 C4	F242 B3	F315 B2	F390 B7	F417 B7	F466 B8	F494 B8	F541 A7	F568 A5	F595 A5	F622 A5	F649 B7	F683 A6	F814 A1	I016 B5	I051 C2	I078 B1	I114 A2	I143 B2	I206 B2	I243 A3	I270 B4	I297 C8	I366 B7	I436 A3	I538 C1	I565 C2	I592 C6	I669 B1	



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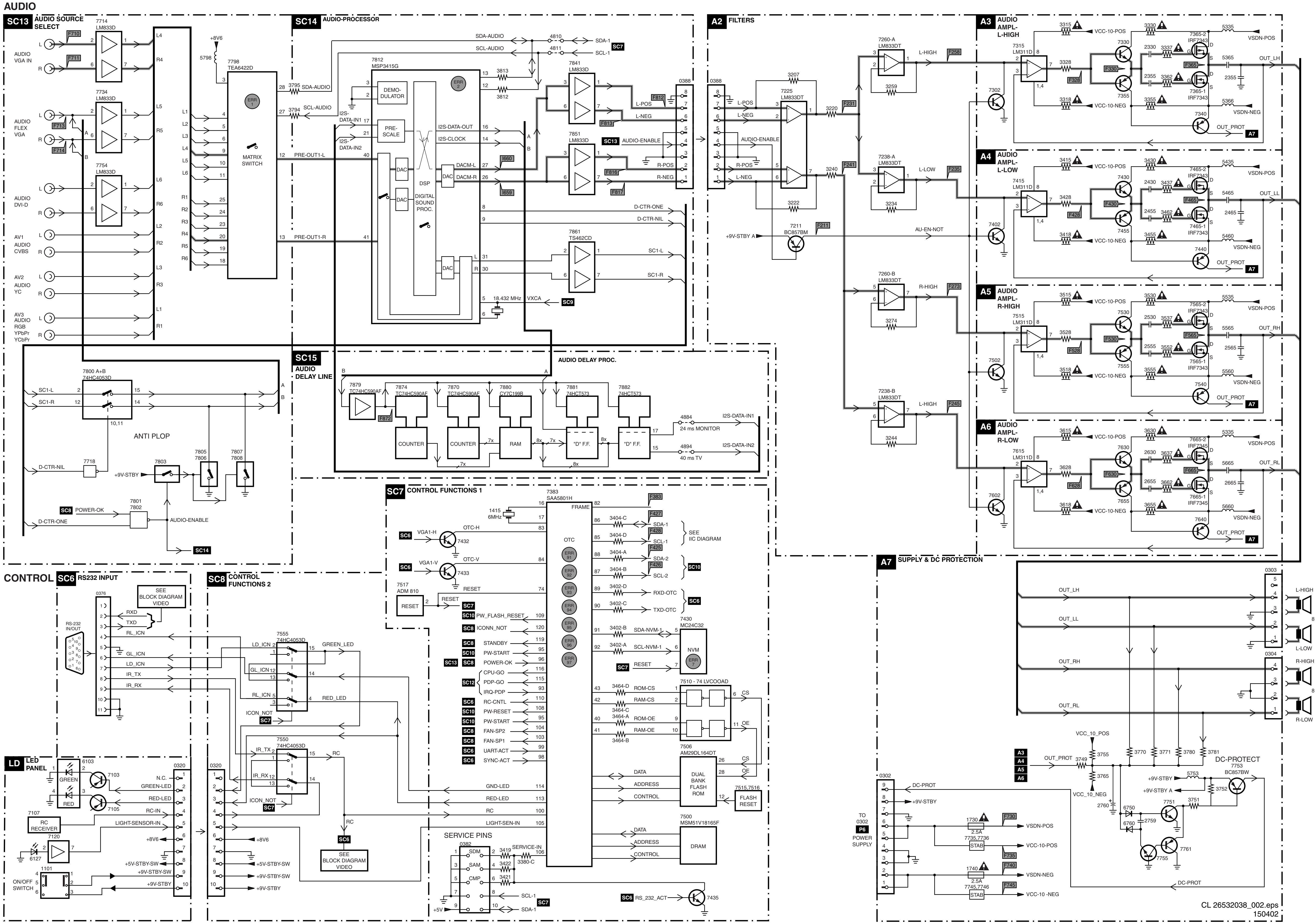
Block Diagram Audio (FM23 AC/FM24 AB/FM33 AA)


AUDIO
SC13 AUDIO SOURCE SELECT
7714 LM833D
AUDIO VGA IN
7734 LM833D
AUDIO FLEX VGA
7754 LM833D
AUDIO DVI-D
AV1 AUDIO CVBS
AV2 AUDIO YC
AV3 AUDIO RGB YPbPr YCbPr
SC14 AUDIO-PROCESSOR
7798 TEA6422D
MATRIX SWITCH
PRE-OUT1-L
PRE-OUT1-R
SDA-AUDIO
SCL-AUDIO
7812 MSP3415G
DEMO-DULATOR
PRE-SCALE
DSP
DIGITAL SOUND PROC.
I2S-DATA-OUT
I2S-CLOCK
I2S-DATA-IN1
I2S-DATA-IN2
DACM-L
DACM-R
D-CTR-ONE
D-CTR-NIL
18.432 MHz
VXCA
7841 LM833D
7851 LM833D
7861 TS462CD
L-POS
L-NEG
AUDIO-ENABLE
R-POS
R-NEG
SC1-L
SC1-R
0388
A2 FILTERS
7225 LM833DT
7260-A LM833DT
7238-A LM833DT
7260-B LM833DT
7238-B LM833DT
L-HIGH
L-LOW
R-HIGH
R-LOW
7211 BC857BM
+9V-STBY A
AU-EN-NOT
A3 AUDIO AMPL- L-HIGH
A4 AUDIO AMPL- L-LOW
A5 AUDIO AMPL- R-HIGH
A6 AUDIO AMPL- R-LOW
7315 LM311D
7415 LM311D
7515 LM311D
7615 LM311D
VCC-10-POS
VCC-10-NEG
VSDN-POS
VSDN-NEG
IRF7343
IRF7345
OUT_LH
OUT_LL
OUT_RH
OUT_RL
OUT_PROT
SC15 AUDIO DELAY LINE
AUDIO DELAY PROC.
7879 TC74HC590AF
7874 TC74HC590AF
7870 TC74HC590AF
7880 CY7C199B
7881 74HCT573
7882 74HCT573
COUNTER
RAM
"D" F.F.
24 ms MONITOR
40 ms TV
7800 A+B 74HC4053D
ANTI PLOP
D-CTR-NIL
D-CTR-ONE
+9V-STBY
POWER-OK
AUDIO-ENABLE
SC7 CONTROL FUNCTIONS 1
7383 SAA5801H
OTC
1415 6MHz
VGA1-H
VGA1-V
7517 ADM 810
RESET
PW_FLASH_RESET
ICONN_NOT
STANDBY
PW-START
CPU-GO
PDP-GO
IRQ-PDP
RC-CNTL
PW-RESET
FAN-SP2
FAN-SP1
UART-ACT
SYNC-ACT
GND-LED
RED-LED
RC
LIGHT-SEN-IN
SDA-1
SCL-1
SDA-2
SCL-2
SEE IIC DIAGRAM
RXD-OTC
TXD-OTC
7430 MC24C32
NVM
7510 - 74 LVCOOAD
ROM-CS
RAM-CS
ROM-OE
RAM-OE
7506 AM29DL164DT
DUAL BANK FLASH ROM
FLASH RESET
7500 MSM51V18165F
DRAM
DATA
ADDRESS
CONTROL
SERVICE PINS
SDM
SAM
CMP
SERVICE-IN
RS_232_ACT
7435
CONTROL
SC6 RS232 INPUT
SEE BLOCK DIAGRAM VIDEO
RS-232 IN/OUT
RXD
TXD
RL_ICN
GL_ICN
LD_ICN
IR_TX
IR_RX
SC8 CONTROL FUNCTIONS 2
7555 74HC4053D
7550 74HC4053D
GREEN_LED
RED_LED
ICON_NOT
LD LED PANEL
GREEN
RED
7103
7105
RC RECEIVER
7120
ON/OFF SWITCH
N.C.
LIGHT-SENSOR-IN
+8V6
+5V-STBY-SW
+9V-STBY-SW
+9V-STBY
A7 SUPPLY & DC PROTECTION
L-HIGH
L-LOW
R-HIGH
R-LOW
8 Ω
VCC_10_POS
VCC_10_NEG
DC-PROTECT
7753 BC857BW
DC-PROT
TO 0302 P6 POWER SUPPLY
VSDN-POS
VCC-10-POS
VSDN-NEG
VCC-10 -NEG
2.5A
STAB

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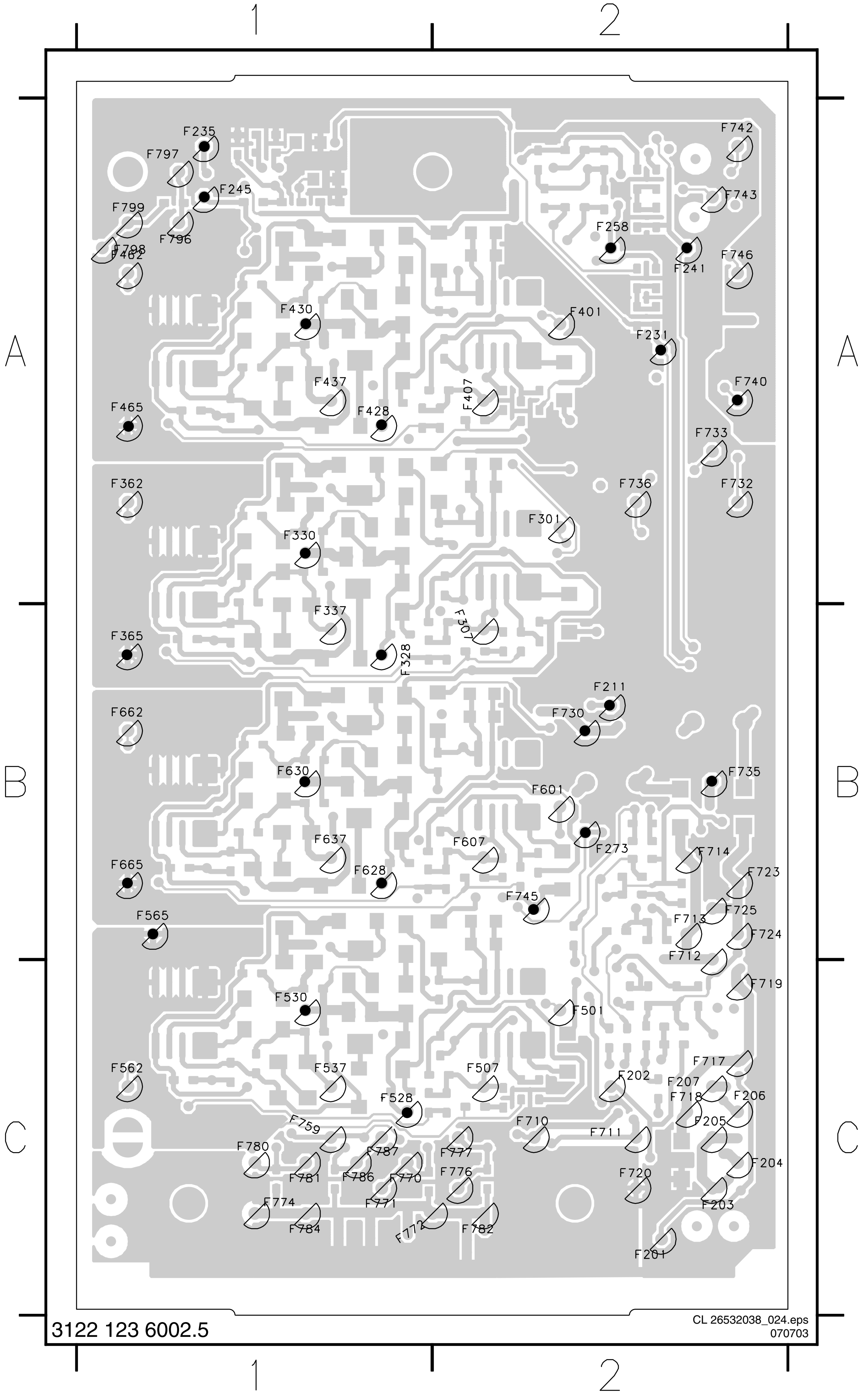
Testpoint Overview: Audio Amplifier Panel


1
2
A
B
C
F235
F797
F245
F799
F796
F798
F462
F258
F241
F742
F743
F746
F430
F401
F231
F437
F428
F407
F740
F465
F733
F362
F736
F732
F330
F301
F337
F307
F365
F328
F211
F730
F662
F630
F601
F735
F273
F637
F607
F714
F665
F628
F723
F745
F565
F725
F713
F724
F712
F530
F719
F501
F562
F537
F507
F717
F202
F207
F718
F206
F528
F759
F710
F711
F205
F780
F787
F777
F781
F786
F770
F776
F204
F720
F774
F771
F203
F784
F772
F782
F201
3122 123 6002.5

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070703

F201	C2
F201	C2
F202	C2
F202	C2
F203	C2
F203	C2
F204	C2
F204	C2
F205	C2
F205	C2
F206	C2
F206	C2
F207	C2
F207	C2
F211	B2
F211	B2
F231	A2
F231	A2
F235	A1
F235	A1
F241	A2
F241	A2
F245	A1
F245	A1
F258	A2
F258	A2
F273	B2
F273	B2
F301	A2
F301	A2
F307	B2
F307	B2
F328	B1
F328	B1
F330	A1
F330	A1
F365	B1
F365	B1
F401	A2
F401	A2
F407	A2
F407	A2
F428	A1
F428	A1
F430	A1
F430	A1
F465	A1
F465	A1
F501	C2
F501	C2
F507	C2
F507	C2
F528	C1
F528	C1
F530	C1
F530	C1
F565	B1
F565	B1
F601	B2
F601	B2
F607	B2
F607	B2
F628	B1
F628	B1
F630	B1
F630	B1
F665	B1
F665	B1
F710	C2
F710	C2
F711	C2
F711	C2
F712	B2
F712	B2
F713	B2
F713	B2
F714	B2
F714	B2
F717	C2
F717	C2
F718	C2
F718	C2
F719	C2
F719	C2
F720	C2
F720	C2
F723	B2
F723	B2
F724	B2
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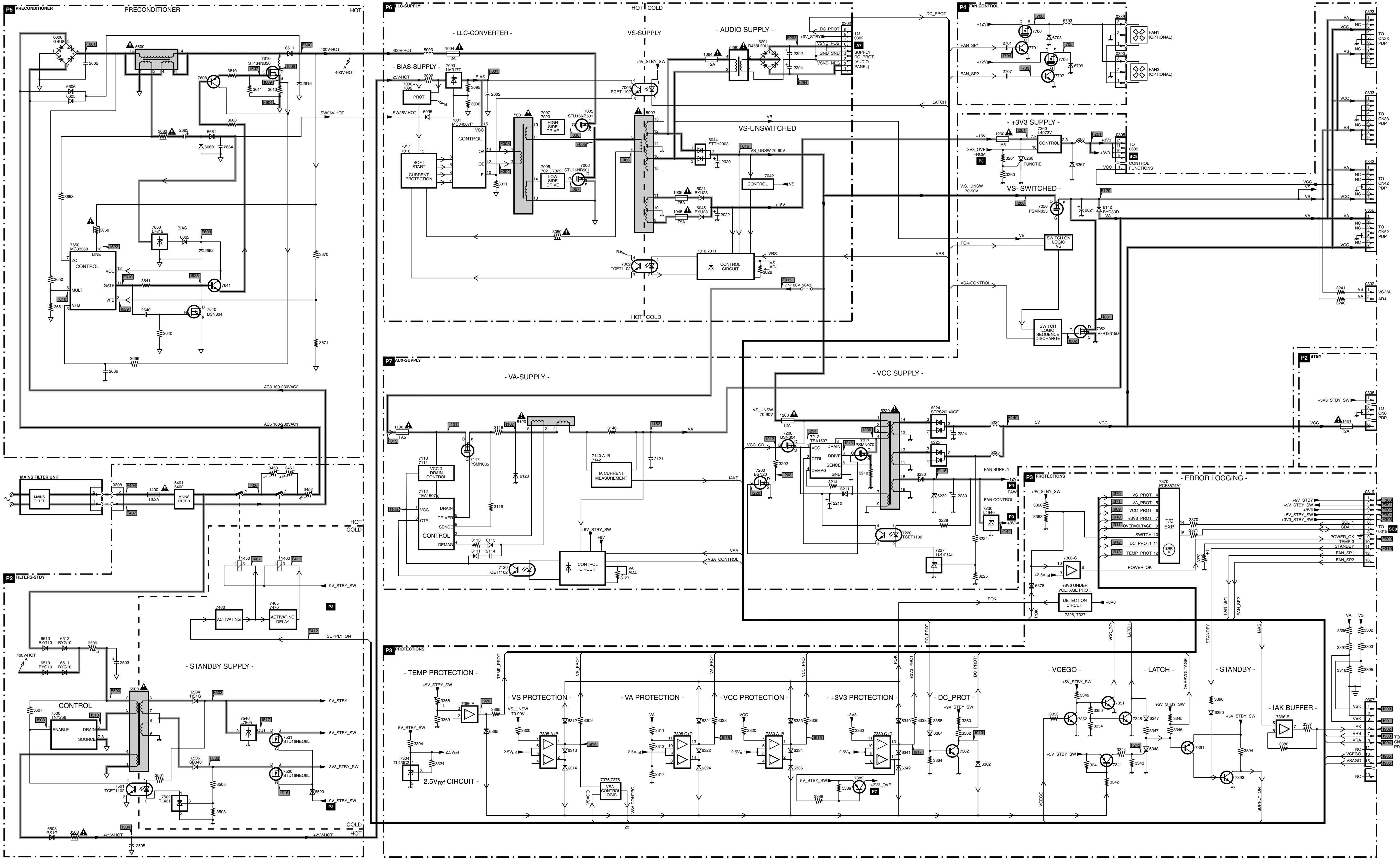
F725	B2
F725	B2
F730	B2
F730	B2
F732	A2
F732	A2
F733	A2
F733	A2
F735	B2
F735	B2
F736	A2
F736	A2
F740	A2
F740	A2
F742	A2
F742	A2
F743	A2
F743	A2
F745	B2
F745	B2
F746	A2
F746	A2
F759	C1
F759	C1
F770	C1
F770	C1
F771	C1
F771	C1
F772	C1
F772	C1
F774	C1
F774	C1
F776	C2
F776	C2
F777	C2
F777	C2
F780	C1
F780	C1
F781	C1
F781	C1
F782	C2
F782	C2
F784	C1
F784	C1
F786	C1
F786	C1
F787	C1
F787	C1
F796	A1
F796	A1
F797	A1
F797	A1
F798	A1
F798	A1
F799	A1
F799	A1

Personal Notes:

Block Diagram Power Supply (FM23 AC)


P5 PRECONDITIONER
PRECONDITIONER
HOT
P6 LLC-SUPPLY
HOT COLD
- LLC-CONVERTER -
- BIAS-SUPPLY -
VS-SUPPLY
- AUDIO SUPPLY -
VS-UNSWITCHED
TO 0302 SUPPLY DC. PROT. (AUDIO PANEL)
P4 FAN CONTROL
FAN1 (OPTIONAL)
FAN2 (OPTIONAL)
- +3V3 SUPPLY -
VS- SWITCHED -
TO 0305 CONTROL FUNCTIONS
TO CN23 PDP
TO CN33 PDP
TO CN42 PDP
TO CN52 PDP
VS-VA ADJ.
400V-HOT
SW25V-HOT
AC3 100-230VAC2
AC5 100-230VAC1
MAINS FILTER UNIT
MAINS FILTER
P7 AUX-SUPPLY
- VA-SUPPLY -
IA CURRENT MEASUREMENT
- VCC SUPPLY -
P2 STBY
TO CN6 PDP
P3 PROTECTIONS
- ERROR LOGGING -
TO 0319 CONTROL FUNCTIONS 2
P2 FILTERS-STBY
- STANDBY SUPPLY -
CONTROL
ACTIVATING
ACTIVATING DELAY
SUPPLY_ON
P3 PROTECTIONS
- TEMP PROTECTION -
- VS PROTECTION -
- VA PROTECTION -
- VCC PROTECTION -
- +3V3 PROTECTION -
- DC_PROT -
- VCEGO -
- LATCH -
- STANDBY -
- IAK BUFFER -
2.5Vref CIRCUIT -
VSA CONTROL LOGIC
TO CN7 PDP
COLD
HOT

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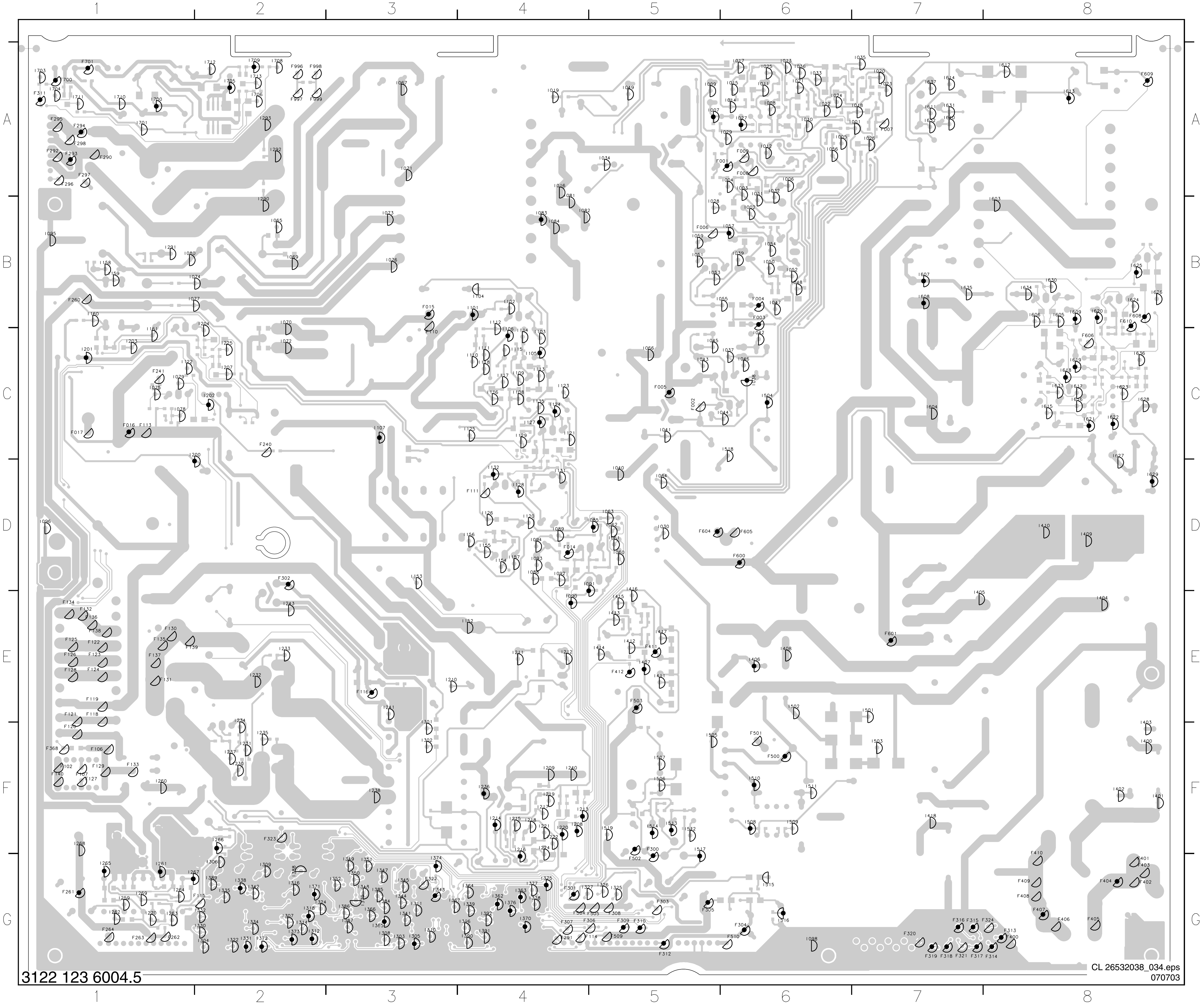
Testpoint Overview Power Supply (FM23AC)



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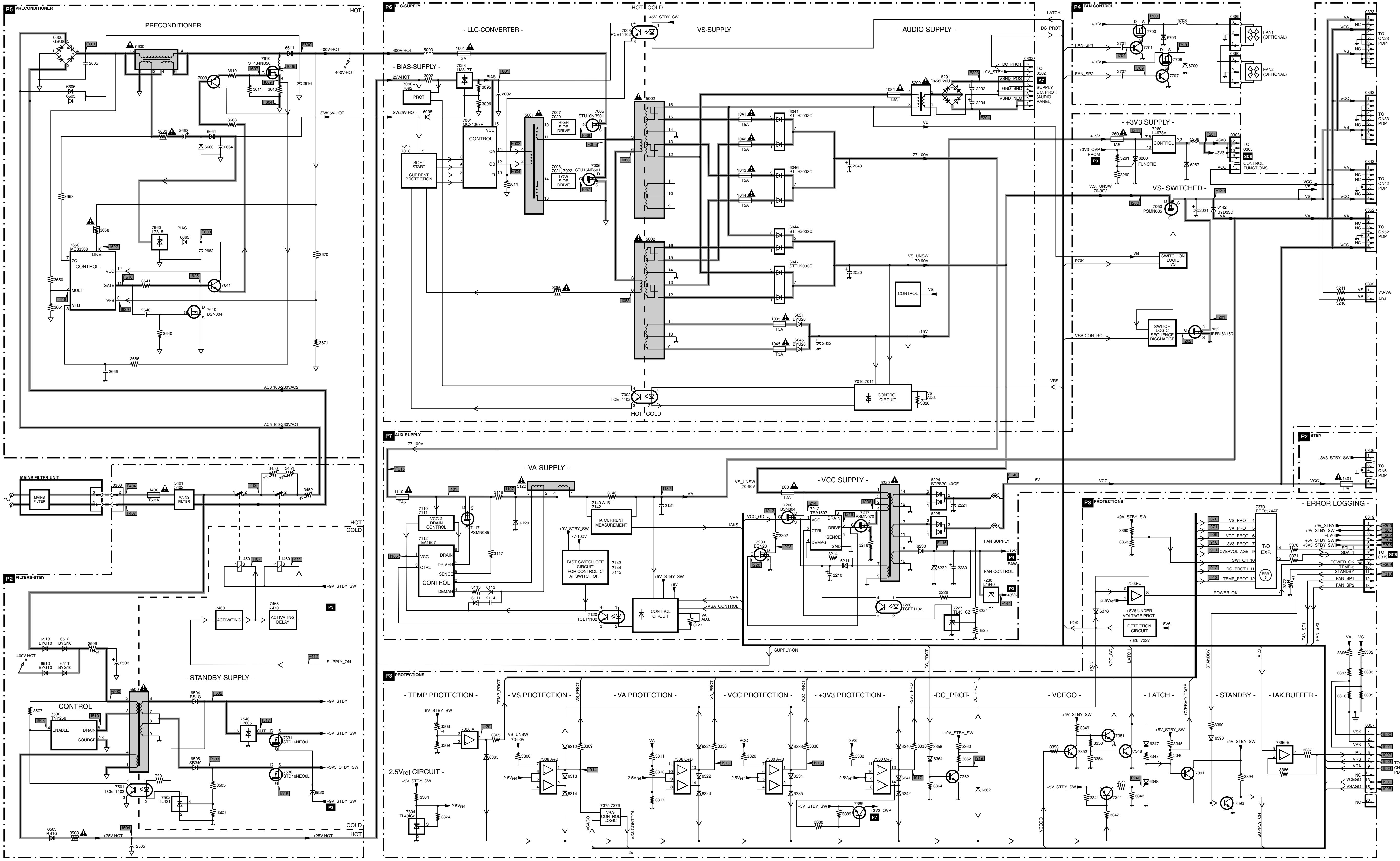
F002	C6	I007	A6	I075	C2	I204	B2	I325	G5	I501	E7	I905	G7
F003	B6	I008	A6	I076	B4	I207	C2	I326	G5	I502	E7	I906	G8
F004	B6	I008	A6	I076	B4	I207	C2	I326	G5	I502	E7		
F005	C6	I009	A6	I077	B2	I208	F5	I327	G5	I503	F7		
F006	B6	I009	A6	I077	B2	I208	F5	I327	G5	I503	F7		
F007	A7	I010	A7	I078	C2	I209	F5	I330	G2	I504	C6		
F008	A6	I010	A7	I078	C2	I209	F5	I330	G2	I504	C6		
F009	A6	I011	A6	I079	C2	I210	E4	I331	G2	I505	F6		
F014	D5	I011	A6	I079	C2	I210	E4	I331	G2	I505	F6		
F015	B4	I012	A6	I080	B2	I211	E5	I332	G2	I506	F6		
F016	C2	I012	A6	I080	B2	I211	E5	I332	G2	I506	F6		
F017	C1	I013	A7	I081	A5	I212	E5	I334	G3	I507	F6		
F102	F1	I013	A7	I081	A5	I212	E5	I334	G3	I507	F6		
F106	F1	I014	A6	I082	B5	I213	F5	I335	G2	I508	F6		
F107	F1	I014	A6	I082	B5	I213	F5	I335	G2	I508	F6		
F110	B4	I015	A6	I083	B5	I214	F4	I338	G2	I509	F7		
F111	D4	I015	A6	I083	B5	I214	F4	I338	G2	I509	F7		
F113	C2	I016	A5	I084	B5	I215	F5	I339	G4	I510	F6		
F114	G5	I016	A5	I084	B5	I215	F5	I339	G4	I510	F6		
F115	G2	I017	A6	I085	D5	I216	F5	I341	G4	I511	F7		
F116	E3	I017	A6	I085	D5	I216	F5	I341	G4	I511	F7		
F118	E1	I018	A7	I088	D5	I217	F5	I342	G3	I512	F6		
F119	E1	I018	A7	I088	D5	I217	F5	I342	G3	I512	F6		
F120	F1	I019	A5	I089	D5	I218	F5	I344	G4	I513	F6		
F121	E1	I019	A5	I089	D5	I218	F5	I344	G4	I513	F6		
F122	E1	I020	A7	I090	D5	I219	F5	I345	G4	I514	F6		
F123	E1	I020	A7	I090	E5	I219	F5	I345	G4	I514	F6		
F124	E1	I021	A7	I091	D5	I220	F5	I347	G4	I515	G6		
F125	E1	I021	A7	I091	D5	I220	F5	I347	G4	I515	G6		
F126	E1	I022	A7	I092	D5	I221	F5	I348	G3	I516	G7		
F127	F1	I022	A7	I092	D5	I221	F5	I348	G3	I516	G7		
F128	E1	I023	A7	I093	D5	I222	F5	I349	F3	I517	F6		
F129	F1	I023	A7	I093	D5	I222	F5	I349	G3	I517	F6		
F130	E2	I024	A7	I094	D5	I224	F5	I350	G3	I518	C6		
F131	E2	I024	A7	I094	D5	I224	F5	I350	G3	I518	C6		
F132	E1	I025	A6	I095	B1	I225	C2	I351	F3	I603	A8		
F133	F2	I025	A6	I095	B1	I225	C2	I351	G3	I603	A8		
F134	E1	I026	A7	I096	D1	I230	F2	I352	G3	I604	C8		
F135	E2	I026	A7	I096	D1	I230	F2	I352	G3	I604	C8		
F136	E1	I027	A6	I098	G7	I231	F2	I362	G4	I605	B9		
F137	E2	I027	A6	I098	G7	I231	F2	I362	G4	I605	B9		
F138	E1	I028	A6	I101	B4	I232	E3	I363	G5	I606	B8		
F139	E2	I028	B6	I101	B4	I232	E3	I363	G5	I606	B8		
F140	F1	I029	A6	I102	B4	I233	E3	I364	G4	I607	B8		
F260	B1	I029	A6	I102	B4	I233	E3	I364	G4	I607	B8		
F261	G1	I030	D6	I103	B5	I234	E2	I365	G4	I608	B8		
F262	G2	I030	D6	I103	C5	I234	E2	I365	G4	I608	B8		
F263	G2	I031	A6	I104	B4	I235	F3	I366	G3	I609	B9		
F264	G1	I031	A6	I104	B4	I235	F3	I366	G3	I609	B9		
F290	A1	I032	A6	I105	C5	I236	F4	I367	G4	I610	A8		
F291	G5	I032	A6	I105	C5	I236	F4	I367	G4	I610	A8		
F292	A1	I033	A7	I106	B4	I237	F2	I370	G5	I611	A8		
F293	A1	I033	A7	I106	B4	I237	F2	I370	G5	I611	A8		
F294	A1	I034	A5	I107	C3	I238	F3	I371	G3	I612	A8		
F295	A1	I034	A5	I107	C3	I238	F3	I371	G3	I612	A8		
F296	A1	I035	A7	I108	C5	I240	F5	I372	G3	I613	A8		
F297	A1	I035	A7	I108	C5	I240	F5	I372	G3	I613	A8		
F298	A1	I036	A7	I109	C5	I241	E4	I373	G3	I614	A9		
F300	F6	I036	A7	I109	C5	I241	E4	I373	G3	I614	A9		
F301	G5	I037	C6	I110	C4	I243	E3	I374	F4	I615	C9		
F302	D3	I037	C6	I110	C4	I243	E3	I374	G4	I615	C9		
F303	G6	I038	C6	I111	C4	I260	F2	I375	G5	I616	C9		
F304	G6	I038	C6	I111	C4	I260	F2	I375	G5	I616	C9		
F305	G6	I039	B6	I112	B4	I261	G2	I376	G4	I617	C9		
F306	G5	I039	B6	I112	B4	I261	G2	I376	G4	I617	C9		
F307	G5	I040	C5	I113	C5	I262	G1	I377	G5	I618	C9		
F308	G5	I040	D5	I113	C5	I262	G1	I377	G5	I618	C9		
F309	G5	I041	C6	I114	B5	I263	G2	I378	G5	I619	C9		
F310	G5	I041	C6	I114	B5	I263	G2	I378	G5	I619	C9		
F311	A1	I042	B6	I115	C4	I264	G2	I380	G3	I620	B9		
F312	G6	I042	C6	I115	C4	I264	G2	I380	G3	I620	B9		
F313	G8	I043	C6	I116	C4	I265	G1	I383	G3	I621	C9		
F314	G8	I043	C6	I116	C4	I265	G1	I383	G3	I621	C9		
F315	G8	I044	C6	I117	C4	I266	F2	I384	G3	I622	C9		
F316	G8	I044	C6	I117	C4	I266	F2	I384	G3	I622	C9		
F317	G8	I045	C6	I118	C4	I267	G2	I385	G3	I623	C9		
F318	G8	I045	C6	I118	C4	I267	G2	I385	G3	I623	C9		
F319	G8	I046	C6	I120	D5	I268	F1	I386	G3	I624	B9		
F320	G8	I046	C6	I120	D5	I268	F1	I386	G3	I624	B9		
F321	G8	I047	B6	I121	C5	I269	G2	I387	G3	I625	B9		
F322	G4	I047	B6	I121	C5	I269	G2	I387	G3	I625	B9		
F323	F3	I048	B7	I122	C2	I270	G2	I388	G3	I626	B9		
F343	G4	I048	B7	I122	C2	I270	G2	I388	G3	I626	B9		
F368	F1	I049	A5	I123	C5	I290	A3	I389	G2	I627	C9		
F400	G8	I049	A5	I123	C5	I290	A3	I389	G2	I627	C9		
F401	F9	I050	B6	I124	C5	I291	B2	I390	G4	I628	C9		
F402	G9	I050	B6	I124	C5	I291	B2	I390	G4	I628	C9		
F403	G9	I051	B6	I125	C4	I292	A3	I391	G4	I629	D9		
F404	G9	I051	B6	I125	C4	I292	A3	I391	G4	I629	D9		
F405	G9	I052	B7	I126	D4	I293	A3	I392	G4	I630	B9		
F406	G9	I052	B7	I126	D4	I293	A3	I392	G4	I630	B9		
F407	G9	I053	B6	I127	C5	I300	E2	I396	G4	I631	A8		
F408	G8	I053	B6	I127	C5	I300	E2	I396	G4	I631	A8		
F409	G8	I054	B6	I128	D5	I301	E4	I400	F9	I632	A8		
F410	F8	I054	B6	I128	D5	I301	E4	I400	F9	I632	A8		
F411	E6	I055	B6	I129	C5	I302	F4	I401	F9	I633	C9		
F412	E5	I055	B6	I129	C5	I302	F4	I401	F9	I633	C9		
F500	F7	I056	A7	I131	D5	I303	G4	I402	F9	I634	B8		
F501	F6	I056	A7	I131	D5	I303	G4	I402	F9	I634	B8		
F502	F5	I057	B6	I132	C4	I304	G2	I403	E9	I635	B8		
F503	E5	I057	B6	I132	D4	I304	G2	I403	E9	I635	B8		
F504	G5	I059	B6	I135	C5	I305	G4	I404	D9	I636	C9		
F505	G5	I059	B6	I135	C5	I305	G4	I404	E9	I636	C9		
F509	G5	I060	D5	I152	E4	I306	G3	I405	D8	I700	A2		
F510	G6	I060	D5	I152	E4	I306	G3	I405	D8	I700	A2		
F600	D6	I061	D5	I153	D4	I307	G3	I406	E6	I701	A2		
F601	E7	I061	D5	I153	D4	I307	G3	I406	E6	I701	A2		
F604	D6	I062	D5	I154	D4	I308	G4	I407	E5	I703	A1		
F605	D6	I062	D5	I154	D4	I308	G4	I407	E5	I703	A1		
F606	C9	I063	D5	I155	D4	I309	G3	I408	E7	I704	A1		
F608	B9	I063	D5	I155	D4	I309	G3	I408	E7	I704	A1		
F609	A9	I064	D6	I156	D4	I310	G4	I409	D9	I705	A2		
F610	B9	I064	D6	I156	D4	I310	G4	I409	D9	I705	A2		
F700	A1	I065	B3	I157	D5	I311	G4	I410	D9	I706	A3		
F701	A1	I065	B3	I157	D5	I311	G4	I410	D9	I706	A3		
F996	A3	I066	C6	I158	B1	I312	G3	I411	E6	I708	A3		
F997	A3	I066	C6	I158	B1	I312	G3	I411	E6	I708	A3		
F998	A3	I067	A4	I159	B1	I313	G3	I412	E5	I709	A3		
F999	A3	I067	A4	I159	B1	I313	G3	I412	E5	I709	A3		
I001	A7	I069	B3	I160	B1	I314	G3	I413	E5	I710	A2		
I001	A7	I069	B3	I160	B1	I314	G3	I413	E5	I710	A2		
I002	B6	I070	B3	I161	B2	I315	G3	I414	E5	I711	A1		
I002	B6	I070	B3	I161	B2	I315	G3	I414	E5	I711	A1		
I003	A6	I071	A4	I200	C2	I316	G3	I415	D5	I712	A2		
I003	A6	I071	A4	I200	C2	I316	G3	I415	E5	I712	A2		
I004	A6	I072	C3	I201	C1	I318	G3	I416	D5	I713	A3		
I004	A6	I072	C3	I201	C1	I318	G3	I416	D5	I713	A3		
I005	A7	I073	B4	I202	C2	I322	G2	I417	E6	I900	G7		
I005	A7	I073	B4	I202	C2	I322	G2	I417	E6	I901	G7		
I006	A7	I074	B2	I203	C2	I324	G3	I418	F8	I902	G7		
I006	A7	I074	B2	I203	C2	I324	G3	I418	F8	I903	G7		

Block Diagram Power Supply (FM24 AB/FM33 AA)


P5 PRECONDITIONER
PRECONDITIONER
HOT
P6 LLC-SUPPLY
- LLC-CONVERTER -
- BIAS-SUPPLY -
VS-SUPPLY
- AUDIO SUPPLY -
HOT COLD
P4 FAN CONTROL
FAN1 (OPTIONAL)
FAN2 (OPTIONAL)
- +3V3 SUPPLY -
VS- SWITCHED -
CONTROL
SOFT START + CURRENT PROTECTION
HIGH SIDE DRIVE
LOW SIDE DRIVE
PROT
SWITCH ON LOGIC VS
SWITCH LOGIC SEQUENCE DISCHARGE
CONTROL CIRCUIT
TO CN23 PDP
TO CN33 PDP
TO CN42 PDP
TO CN52 PDP
TO 0302 SUPPLY DC. PROT. (AUDIO PANEL)
MAINS FILTER UNIT
MAINS FILTER
P7 AUX-SUPPLY
- VA-SUPPLY -
- VCC SUPPLY -
VCC & DRAIN CONTROL
IA CURRENT MEASUREMENT
FAST SWITCH OFF CIRCUIT FOR CONTROL IC AT SWITCH OFF
P2 FILTERS-STBY
ACTIVATING
ACTIVATING DELAY
- STANDBY SUPPLY -
CONTROL
P2 STBY
TO CN6 PDP
P3 PROTECTIONS
- ERROR LOGGING -
T/O EXP.
DETECTION CIRCUIT
+8V6 UNDER VOLTAGE PROT.
TO CONTROL FUNCTIONS 2
P3 PROTECTIONS
- TEMP PROTECTION -
- VS PROTECTION -
- VA PROTECTION -
- VCC PROTECTION -
- +3V3 PROTECTION -
-DC_PROT-
- VCEGO -
- LATCH -
- STANDBY -
- IAK BUFFER -
2.5Vref CIRCUIT -
VSA CONTROL LOGIC
TO CN7 PDP
COLD
HOT

CL 26532055_011.eps
030502

Testpoint Overview: Power Supply (FM24 AB)

F001	A7
F002	C7
F003	C7
F004	B7
F005	D7
F006	B7
F007	A8
F008	A8
F009	A7
F014	D6
F015	C4
F016	C2
F017	C1
F102	F1
F106	F1
F107	F1
F110	C4
F111	F5
F113	C2
F114	G5
F115	G2
F116	E3
F118	F1
F119	E1
F120	F1
F121	F1
F122	E1
F123	E1
F124	E1
F125	E1
F126	E1
F127	F1
F128	E1
F129	F1
F130	E2
F131	E2
F132	E1
F133	F1
F134	E1
F135	E2
F136	E1
F137	E2
F138	E1
F139	E2
F140	F1
F240	C2
F241	C2
F260	B1
F261	G1
F262	G2
F263	G2
F264	G1
F265	F2
F290	A1
F291	G5
F292	A1
F293	A1
F294	A1
F295	A1
F296	A1
F297	B1
F298	A1
F300	G7
F301	G5
F302	E3
F303	G6
F304	G8
F305	G7
F306	G5
F307	G5
F308	G5
F309	G5
F310	G6
F311	G6
F312	G6
F313	G10
F314	G10
F315	G10
F316	G9
F317	G10
F318	G9
F319	G9
F320	G9
F321	G9
F322	G4
F323	F3
F324	G10
F325	F4
F343	G4
F368	F1
F400	G10
F401	G11
F402	G11
F403	G11
F404	G11
F405	G10
F406	G10
F407	G10
F408	G10
F409	G10
F410	G10
F411	E7
F412	E7
F500	F8
F501	F8
F502	G7
F503	F7
F504	G5
F505	G5
F509	G5
F510	G6
F600	E8
F601	E9
F604	D7
F605	D7
F606	B11
F608	B11
F609	A11
F610	B11
F700	A5
F701	A5
F996	A3
F997	A3
F998	A3
F999	A3
I001	A8
I002	B8
I003	B7
I004	B7
I005	A8
I006	A8
I007	A7
I008	A8
I009	A7
I010	A8
I011	A8
I012	A8
I013	A8
I014	A7
I015	A7
I016	B6
I017	A7
I018	A8
I019	A6
I020	A8
I021	A8
I022	A8
I023	A8
I024	A8
I025	A8
I026	A8
I027	A7
I028	B7
I029	A7
I030	A8
I031	B7
I032	B8
I033	A8
I034	B6
I035	A8
I036	A8
I037	C7
I038	C7
I039	B7
I040	D6
I041	D7
I042	C7
I043	C7
I044	C7
I045	C7
I046	C7
I047	B8
I048	A8
I049	A7
I050	B8
I051	B7
I052	B8
I053	B7
I054	B7
I055	B7
I056	A8
I057	B7
I058	B4
I059	B7
I060	D6
I061	E6
I062	D6
I063	D6
I064	D6
I065	A4
I066	C7
I067	A4
I068	B4
I069	A4
I070	C3
I071	A4
I072	B4
I073	B2
I074	B2
I075	C2
I076	C2
I077	B2
I078	C2
I079	C2
I080	B2
I081	A6
I082	B6
I083	C6
I084	C6
I085	D6
I086	C5
I087	B5
I088	D5
I089	D5
I090	D5
I091	D5
I092	D5
I093	E6
I094	D6
I097	C5
I098	G7
I099	A4
I101	D4
I102	F6
I103	E6
I104	F6
I105	F6
I106	E6
I107	D4
I108	F6
I109	F6
I110	E6
I111	E6
I112	E6
I113	F6
I114	E6
I115	E6
I116	F6
I117	F6
I118	E6
I119	E6
I120	D5
I121	F6
I122	C2
I123	F6
I124	F6
I125	F6
I126	D5
I127	E5
I128	F5
I129	F6
I131	E5
I132	F5
I133	D5
I134	D5
I135	F6
I140	E6
I141	E6
I142	E6
I143	E6
I152	E4
I153	E4
I154	D4
I155	D4
I156	D4
I157	D4
I158	B1
I159	B2
I160	C1
I161	C2
I200	D2
I201	C1
I202	C2
I203	C2
I204	C2
I207	C2
I208	F5
I209	F5
I210	E4
I211	E5
I212	E5
I213	F5
I214	F4
I215	F5
I216	G4
I217	F5
I218	F5
I219	F5
I220	F5
I221	F5
I222	G5
I224	G5
I225	C2
I230	F2
I231	F3
I232	E3
I233	E3
I234	F2
I235	F3
I236	F4
I237	F2
I238	F4
I240	F5
I241	F4
I243	E3
I259	G2
I261	G2
I262	G2
I263	G2
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I266	G2
I267	G2
I268	G1
I269	G2
I270	G2
I271	G2
I290	B3
I291	B2
I292	A3
I293	A3
I301	F4
I303	G4
I304	G3
I305	G4
I306	G2
I307	G3
I308	G4
I309	G3
I310	G4
I311	G4
I312	G3
I313	C2
I314	G3
I316	G3
I318	G3
I322	G2
I324	G3
I325	G5
I326	G5
I327	G5
I330	G2
I331	G2
I332	G2
I334	G2
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I338	G2
I339	G4
I341	G4
I342	G3
I344	G4
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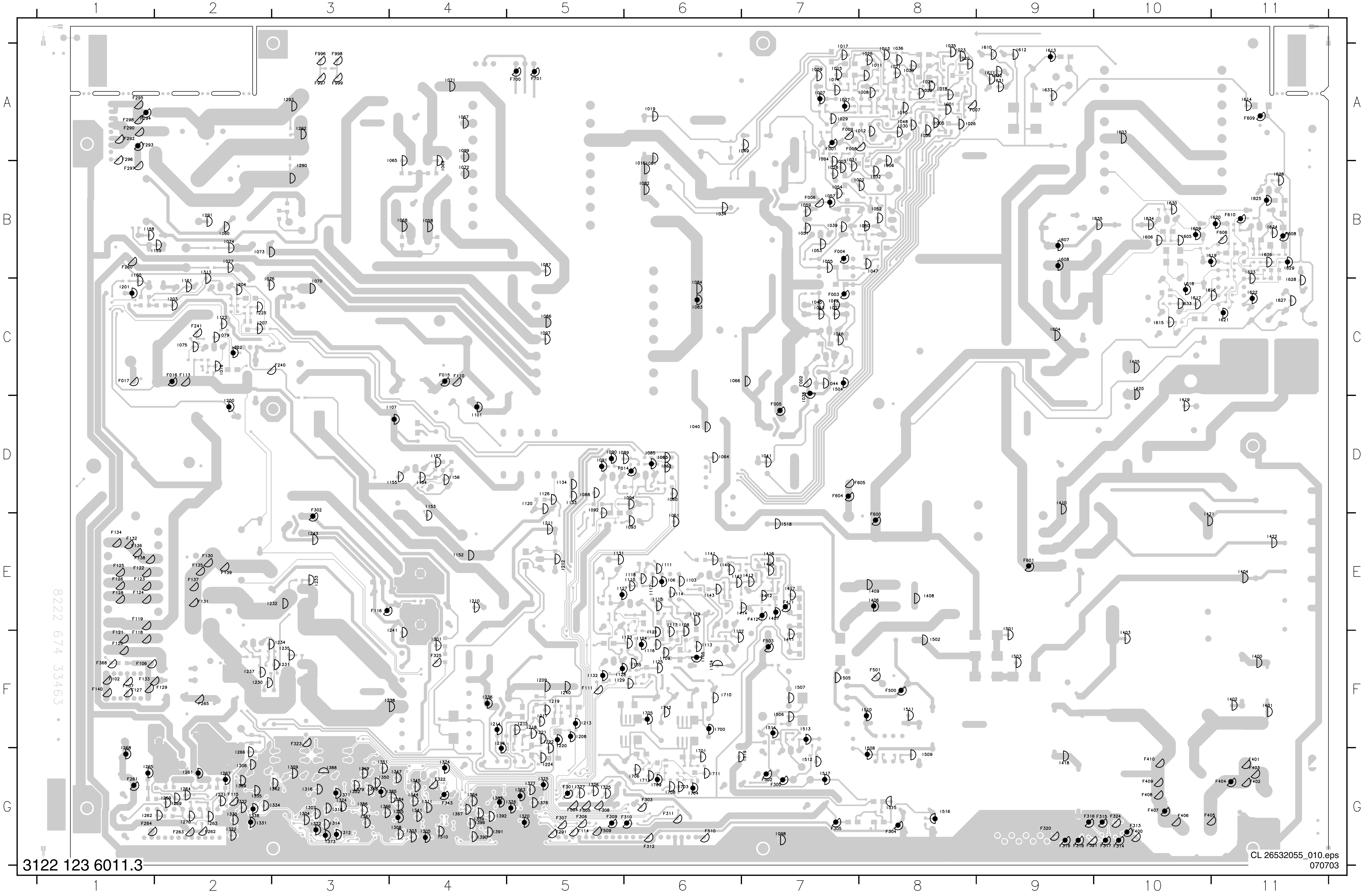
I377	G5
I378	G5
I379	G3
I384	G4
I385	G4
I386	G3
I387	G3
I388	G3
I389	G2
I390	G4
I391	G4
I392	G4
I396	G4
I400	F11
I401	F11
I402	F11
I403	F10
I404	E11
I405	C10
I406	E8
I407	E7
I408	E8
I409	E8
I410	D9
I411	F7
I412	E7
I413	E7
I414	E6
I415	E7
I416	E7
I417	E7
I418	G9
I419	D10
I420	C10
I421	E10
I422	E11
I501	F9
I502	F8
I503	F9
I504	C7
I505	F7
I506	F7
I507	F7
I508	G8
I509	G8
I510	F8
I511	F8
I512	G7
I513	F7
I514	F7
I515	G8
I516	G8
I517	G7
I518	E7
I519	G6
I603	A10
I604	C9
I605	B10
I606	B10
I607	B9
I608	B9
I609	B10
I610	A9
I611	A9
I612	A9
I613	A9
I614	A11
I615	C10
I616	C11
I617	C10
I618	C10
I619	B10
I620	B11
I621	C11
I622	C11
I623	C11
I624	B11
I625	B11
I626	B11
I627	C11
I628	C11
I629	B11
I630	B10
I631	A9
I632	A9
I633	C10
I634	B10
I635	B10
I636	B11
I637	A9
I700	F6
I701	G6
I703	G6
I704	G6
I705	F6
I706	G6
I708	G6
I709	G6
I710	F6
I711	G6
I712	F6
I713	G6



3122 123 6011.3

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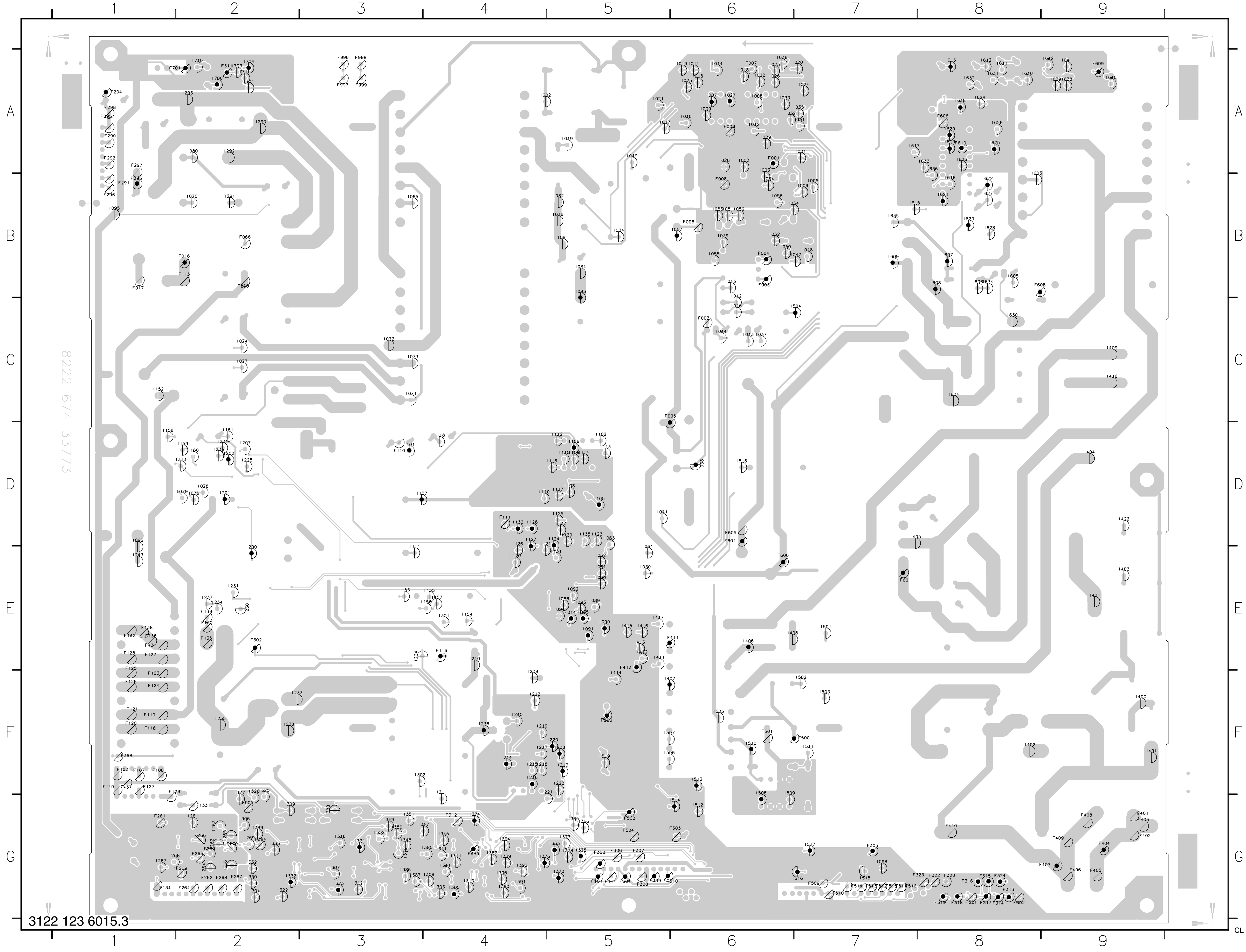
Testpoint Overview: Power Supply (FM33 AA)

F001	A6
F002	C6
F003	B6
F004	B6
F005	C5
F006	B6
F007	A6
F008	B6
F009	A6
F014	E5
F016	B2
F017	B1
F066	B2
F102	F1
F106	F1
F107	F1
F110	D3
F111	D4
F113	B2
F114	G5
F116	E4
F118	F1
F119	F1
F120	F1
F121	F1
F122	E1
F123	E1
F124	F1
F125	E1
F126	F1
F127	F1
F128	E1
F129	F1
F130	E2
F131	E1
F132	E1
F133	G2
F134	G1
F135	E2
F136	E1
F137	F1
F138	E1
F139	E2
F140	F1
F260	B2
F261	G1
F262	G2
F263	G2
F264	G2
F265	G2
F266	G2
F267	G2
F268	G2
F269	G2
F270	G2
F290	A1
F291	B1
F292	A1
F293	A1
F294	A1
F295	A1
F296	B1
F297	A1
F298	A1
F300	G5
F301	G5
F302	E2
F303	G6
F304	G5
F305	G7
F306	G5
F307	G5
F308	G5
F309	G5
F310	G6
F311	A2
F312	G4
F313	G8
F314	G8
F315	G8
F316	G8
F317	G8
F318	G8
F319	G8
F320	G8
F321	G8
F322	G8
F323	G7
F324	G8
F343	G4
F368	F1
F384	G2
F401	G9
F402	G9
F403	G9
F404	G9
F405	G9
F406	G9
F407	G9
F408	G9
F409	G9
F410	G8
F411	E6
F412	E5
F500	F7
F501	F6
F502	G5
F503	F5
F504	G5
F505	G2
F509	G7
F510	G7
F511	G7
F512	G7
F513	G7
F514	G7
F515	G7
F516	G7
F600	E6
F601	E7
F602	G8
F604	D6
F605	D6
F606	A8
F608	B8
F609	A9
F610	A8
F701	A2
F996	A3
F997	A3
F998	A3
F999	A3
I001	A7
I002	A6
I003	A6
I004	B6
I005	B7
I006	B7
I007	A6
I008	A6
I009	A6
I010	A6
I011	A6
I012	A6
I013	A6
I014	A6
I015	A6
I016	B5
I017	A5
I018	A6
I019	A5
I020	A7
I021	A5
I022	A6
I023	A6
I024	A7
I025	A6
I026	A6
I027	A6
I028	A6
I029	A6
I030	E5
I031	A7
I032	A6
I033	A6
I034	B5
I035	A7
I036	A6
I037	C6
I038	D6
I039	B6
I041	D5
I042	B6
I043	C6
I044	C6
I045	B6
I046	C6
I047	B6
I048	B7
I049	A5
I050	B6
I051	B6
I052	B6
I053	B6
I054	B6
I055	B6
I056	B6
I057	B6
I059	B6
I060	E5
I061	E5
I062	E5
I063	D5
I064	D5
I065	B3
I070	B2
I071	C3
I072	C3
I073	C3
I074	C2
I075	D2
I077	C2
I078	D2
I079	D2
I080	A2
I081	B5
I082	B5
I083	B5
I084	B5
I085	E5
I088	E5
I089	E5
I090	E5
I091	E5
I092	E5
I093	E5
I094	E5
I095	B1
I096	D1
I098	G7
I101	D3
I102	D5
I105	D5
I106	D5
I107	D3
I108	D5
I109	D5
I110	D4
I111	D3
I112	D5
I113	D5
I114	D5
I115	D5
I116	D5
I117	D5
I118	D4
I120	E4
I121	D4
I122	D5
I123	D5
I124	D5
I125	D5
I126	D4
I127	D4
I128	D4
I129	D5
I131	E5
I132	D4
I135	D5
I152	C1
I153	E3
I154	E4
I155	E4
I156	E4
I157	E4
I158	D1
I159	D2
I160	D2
I161	D2
I200	D2
I201	D2
I202	D2
I203	D2
I204	D2
I207	D2
I208	F5
I209	E4
I210	E4
I211	F4
I212	F4
I213	F5
I214	F4
I215	F4
I216	F4
I217	F4
I218	F4
I219	F4
I220	F5
I221	F4
I222	F5
I224	E3
I225	D2
I230	E2
I231	E2
I233	F2
I234	E2
I235	F2
I236	F4
I237	E2
I238	F2
I240	F4
I243	E1
I261	G2
I262	G2
I263	G2
I264	G2
I265	G2
I266	G2
I267	G1
I268	G1
I269	G2
I290	A2
I291	B2
I292	A2
I293	A2
I301	E4
I302	F3
I303	G4
I304	G2
I305	G4
I306	G2
I307	G3
I308	G4
I309	G2
I310	G4
I311	G4
I312	G3
I313	D2
I316	G3
I322	G2
I325	F2
I326	F2
I327	F2
I330	G2
I332	G2
I335	G2
I339	G4
I341	G4
I344	G4
I345	G4
I347	G4
I348	G3
I349	G3
I350	G3
I351	G3
I352	G3
I363	G5
I364	G4
I365	G5
I366	G5
I367	G4
I370	G5
I371	G3
I372	G2
I373	G3
I374	G4
I375	G5
I376	G4
I377	G5
I378	G5
I379	G3
I385	G4
I386	G3
I387	G3
I388	G3
I389	G2
I390	G4
I391	G4
I392	G4
I396	G4
I400	F9
I401	F9
I402	F8
I403	E9
I404	D9
I405	D7
I406	E6
I407	F5
I408	E6
I409	C9
I410	C9
I411	E5
I412	E5
I413	E5
I414	E5
I415	E5
I416	E5
I417	E5
I421	E9
I422	D9
I501	E7
I502	F7
I503	F7
I504	C6
I505	F6
I506	F5
I507	F5
I508	F6
I509	F6
I510	F6
I511	F7
I512	G6
I513	F6
I514	G6
I515	G7
I516	G7
I517	G7
I518	D6
I519	F5
I602	A4
I603	A8
I604	C8
I605	B8
I606	B8
I607	B8
I608	B8
I609	B7
I610	A8
I611	A8
I612	A8
I613	A8
I615	B7
I616	A8
I617	A7
I618	A8
I619	A8
I620	A8
I621	B8
I622	B8
I623	A8
I624	A8
I625	A8
I626	A8
I627	B8
I628	B8
I629	B8
I630	C8
I631	A8
I632	A8
I633	A8
I634	B8
I635	B7
I636	A8
I638	A9
I639	A9
I640	A9
I641	A9
I642	A9
I700	A2
I701	A2
I703	A2
I704	A2
I710	A2
I711	A2



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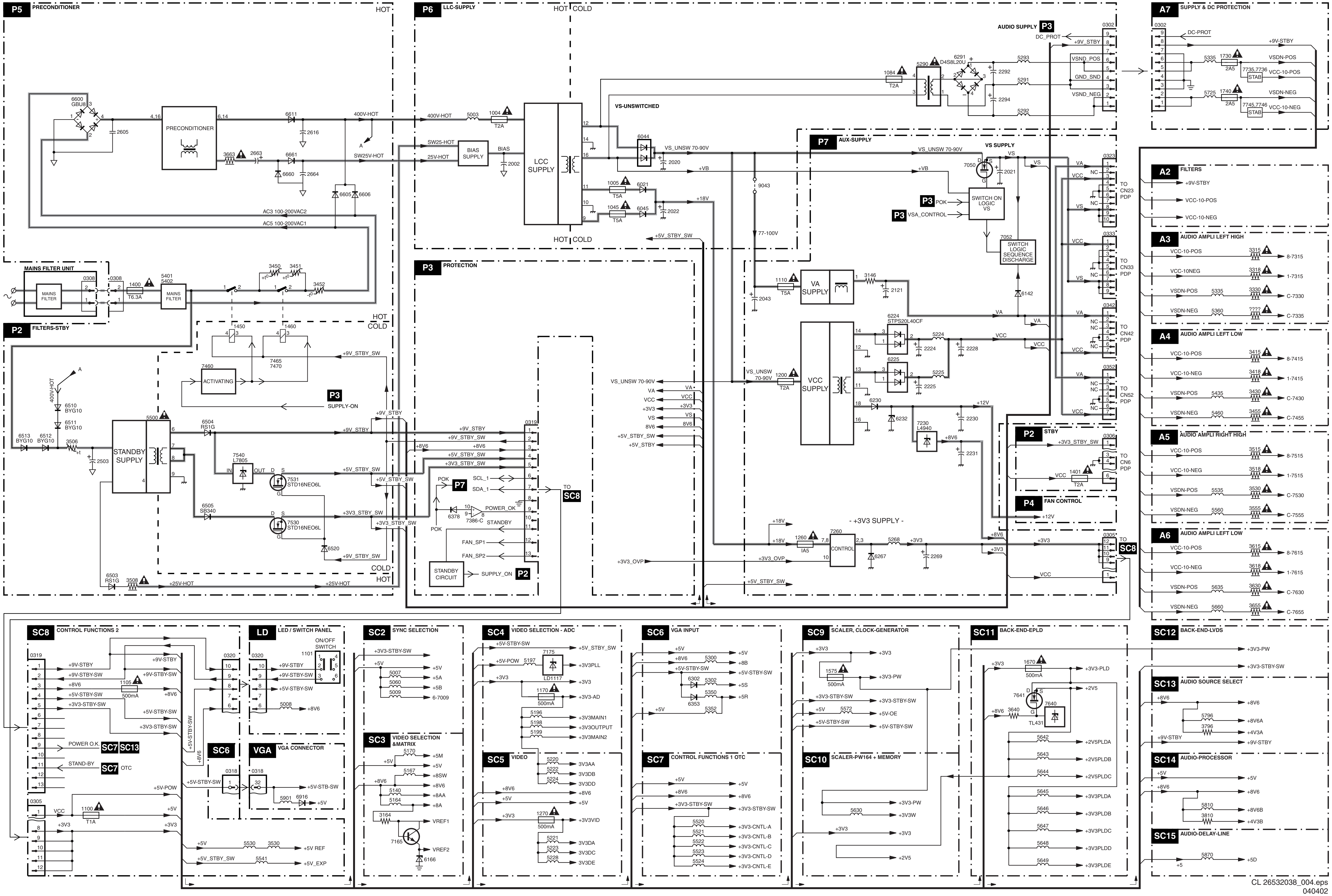
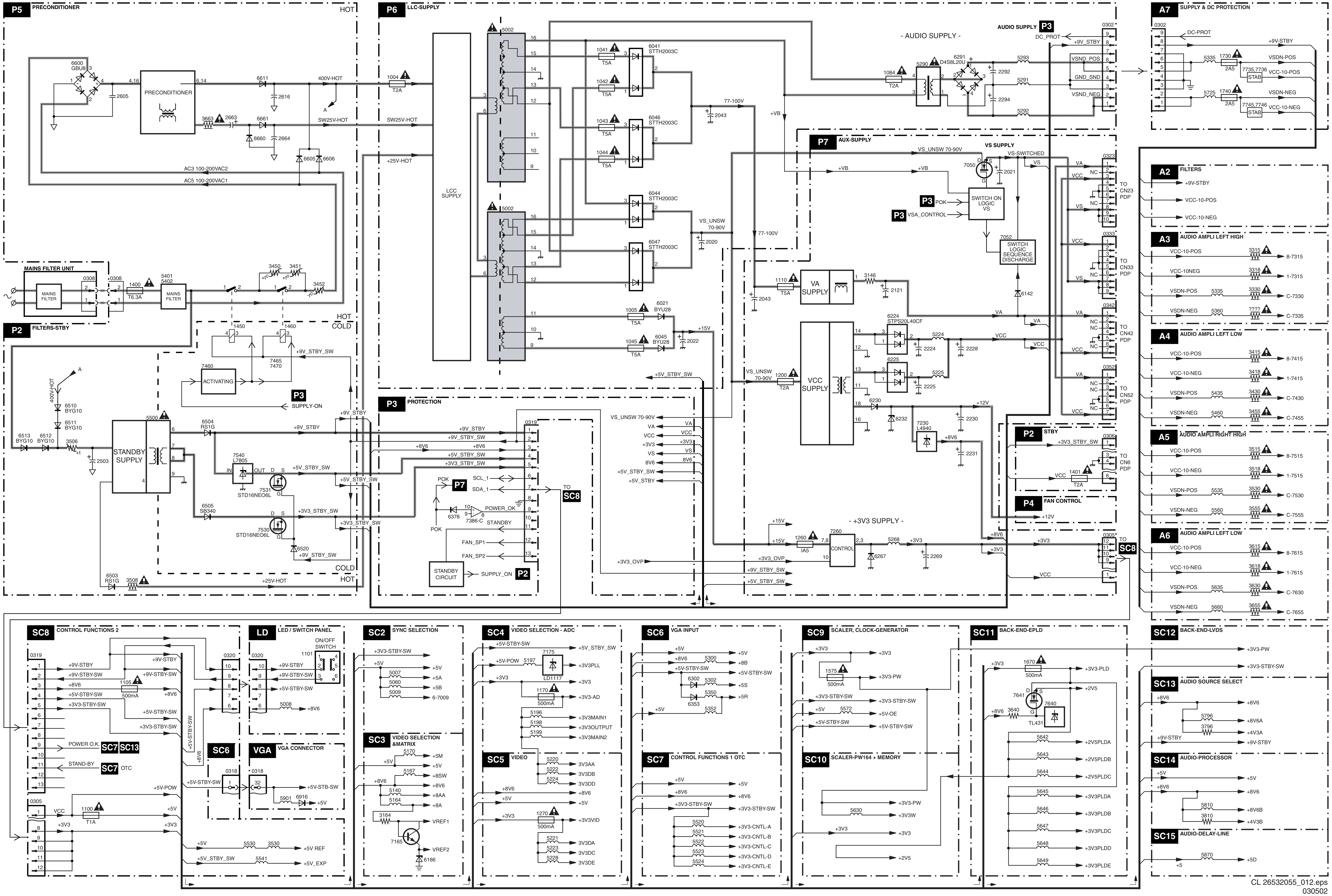
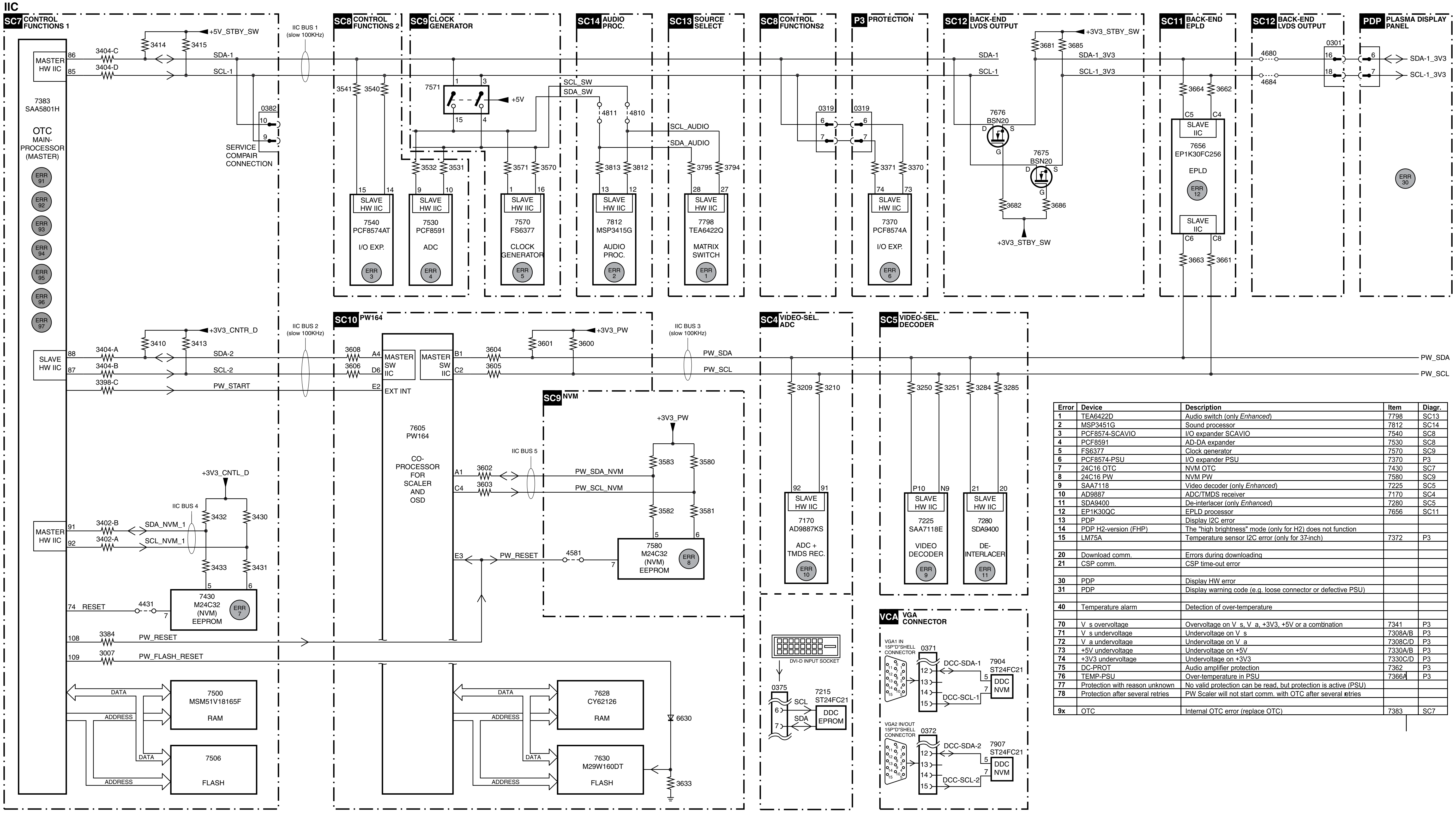
Power Lines Overview (FM23 AC)


P5 PRECONDITIONER
HOT
6600 GBU8
2605
PRECONDITIONER
6611
2616
400V-HOT
3663
2663
6661
SW25V-HOT
6660
2664
6605
6606
AC3 100-200VAC2
AC5 100-200VAC1
P6 LLC-SUPPLY
HOT COLD
400V-HOT
5003
1004
T2A
SW25-HOT
25V-HOT
BIAS SUPPLY
BIAS
2002
LCC SUPPLY
VS-UNSWITCHED
6044
VS_UNSW 70-90V
2020
+VB
1005
T5A
6021
1045
6045
2022
+18V
+5V_STBY_SW
AUDIO SUPPLY P3
DC_PROT
+9V_STBY
1084
T2A
5290
6291 D4S8L20U
2292
2294
5293
5291
5292
VSND_POS
GND_SND
VSND_NEG
0302
A7 SUPPLY & DC PROTECTION
DC-PROT
+9V-STBY
5335
1730
2A5
VSDN-POS
7735,7736 STAB
VCC-10-POS
5725
1740
VSDN-NEG
7745,7746 STAB
VCC-10-NEG
P7 AUX-SUPPLY
VS SUPPLY
7050
2021
VS
P3 POK
SWITCH ON LOGIC VS
P3 VSA_CONTROL
7052 SWITCH LOGIC SEQUENCE DISCHARGE
9043
77-100V
1110 T5A
VA SUPPLY
3146
2121
2043
6142
6224 STPS20L40CF
5224
2224
2228
6225
5225
2225
VS_UNSW 70-90V
1200 T2A
VCC SUPPLY
6230
+12V
6232
7230 L4940
+8V6
2230
2231
- +3V3 SUPPLY -
+18V
1260 IA5
7260 CONTROL
5268
+3V3
6267
2269
+3V3_OVP
+5V_STBY_SW
0323 TO CN23 PDP
0333 TO CN33 PDP
0342 TO CN42 PDP
0352 TO CN52 PDP
VA
VCC
NC
P2 STBY
+3V3_STBY_SW
0306 TO CN6 PDP
1401 T2A
P4 FAN CONTROL
+12V
0305 TO SC8
A2 FILTERS
+9V-STBY
VCC-10-POS
VCC-10-NEG
A3 AUDIO AMPLI LEFT HIGH
3315 8-7315
3318 1-7315
3330 C-7330
3332 C-7335
A4 AUDIO AMPLI LEFT LOW
3415 8-7415
3418 1-7415
3430 C-7430
3455 C-7455
A5 AUDIO AMPLI RIGHT HIGH
3515 8-7515
3518 1-7515
3530 C-7530
3555 C-7555
A6 AUDIO AMPLI LEFT LOW
3615 8-7615
3618 1-7615
3630 C-7630
3655 C-7655
MAINS FILTER UNIT
0308
MAINS FILTER
1400 T6.3A
5401 5402
3450
3451
3452
P2 FILTERS-STBY
HOT COLD
1450
1460
7460 ACTIVATING
7465 7470
+9V_STBY_SW
P3 SUPPLY-ON
400V-HOT
6510 BYG10
6511 BYG10
6513 BYG10
6512 BYG10
3506
2503
STANDBY SUPPLY
5500
6504 RS1G
+9V_STBY
7540 L7805
7531 STD16NEO6L
+5V_STBY_SW
6505 SB340
7530 STD16NEO6L
+3V3_STBY_SW
6520
6503 RS1G
3508
+25V-HOT
COLD HOT
P3 PROTECTION
0319
+8V6
SCL_1
SDA_1
POK
P7
POWER_OK
6378
7386-C
STANDBY
FAN_SP1
FAN_SP2
STANDBY CIRCUIT
SUPPLY_ON P2
TO SC8
VS_UNSW 70-90V
VA
VCC
+3V3
VS
8V6
+5V_STBY_SW
+5V_STBY
SC8 CONTROL FUNCTIONS 2
POWER O.K.
SC7 SC13
STAND-BY
SC7 OTC
1105 500mA
1100 T1A
+5V-POW
LD LED / SWITCH PANEL
ON/OFF SWITCH
1101
5008
SC6
VGA VGA CONNECTOR
0318
5901
6916
+5V REF
+5V_EXP
5530
5541
SC2 SYNC SELECTION
5007
5060
5009
6-7009
SC3 VIDEO SELECTION &MATRIX
5170
5167
5140
5164
3164
7165
VREF1
VREF2
6166
SC4 VIDEO SELECTION - ADC
7175 LD1117
+3V3PLL
1170 500mA
+3V3-AD
+3V3MAIN1
+3V3OUTPUT
+3V3MAIN2
SC5 VIDEO
3V3AA
3V3DB
3V3DD
1270 500mA
+3V3VID
3V3DA
3V3DC
3V3DE
SC6 VGA INPUT
5300
5302
5350
5352
6302
6353
SC7 CONTROL FUNCTIONS 1 OTC
+3V3-CNTL-A
+3V3-CNTL-B
+3V3-CNTL-C
+3V3-CNTL-D
+3V3-CNTL-E
SC9 SCALER, CLOCK-GENERATOR
1575 500mA
+3V3-PW
+3V3-STBY-SW
5572
+5V-OE
SC10 SCALER-PW164 + MEMORY
5630
+3V3W
+2V5
SC11 BACK-END-EPLD
1670 500mA
+3V3-PLD
7641
7640 TL431
+2V5PLDA
+2V5PLDB
+2V5PLDC
+3V3PLDA
+3V3PLDB
+3V3PLDC
+3V3PLDD
+3V3PLDE
SC12 BACK-END-LVDS
+3V3-PW
+3V3-STBY-SW
SC13 AUDIO SOURCE SELECT
+8V6A
+4V3A
+9V-STBY
SC14 AUDIO-PROCESSOR
+8V6B
+4V3B
SC15 AUDIO-DELAY-LINE
5870
+5D

Power Lines Overview (FM24 AB/FM33 AA)


P5 PRECONDITIONER
HOT
PRECONDITIONER
MAINS FILTER UNIT
MAINS FILTER
P2 FILTERS-STBY
HOT
COLD
ACTIVATING
STANDBY SUPPLY
400V-HOT
SW25V-HOT
+25V-HOT
AC3 100-200VAC2
AC5 100-200VAC1
P6 LLC-SUPPLY
LCC SUPPLY
- AUDIO SUPPLY -
AUDIO SUPPLY P3
DC_PROT
+9V_STBY
VSND_POS
GND_SND
VSND_NEG
77-100V
+VB
P7 AUX-SUPPLY
VS SUPPLY
VS_UNSW 70-90V
VS-SWITCHED
SWITCH ON LOGIC VS
P3 POK
P3 VSA_CONTROL
SWITCH LOGIC SEQUENCE DISCHARGE
VA SUPPLY
VCC SUPPLY
- +3V3 SUPPLY -
CONTROL
P3 PROTECTION
POWER_OK
STANDBY
STANDBY CIRCUIT
SUPPLY_ON P2
FAN_SP1
FAN_SP2
TO SC8
P2 STBY
P4 FAN CONTROL
A7 SUPPLY & DC PROTECTION
A2 FILTERS
A3 AUDIO AMPLI LEFT HIGH
A4 AUDIO AMPLI LEFT LOW
A5 AUDIO AMPLI RIGHT HIGH
A6 AUDIO AMPLI LEFT LOW
TO CN23 PDP
TO CN33 PDP
TO CN42 PDP
TO CN52 PDP
TO CN6 PDP
SC8 CONTROL FUNCTIONS 2
LD LED / SWITCH PANEL
ON/OFF SWITCH
SC2 SYNC SELECTION
SC4 VIDEO SELECTION - ADC
SC6 VGA INPUT
SC9 SCALER, CLOCK-GENERATOR
SC11 BACK-END-EPLD
SC12 BACK-END-LVDS
SC13 AUDIO SOURCE SELECT
SC14 AUDIO-PROCESSOR
SC15 AUDIO-DELAY-LINE
SC6
VGA VGA CONNECTOR
SC3 VIDEO SELECTION &MATRIX
SC5 VIDEO
SC7 CONTROL FUNCTIONS 1 OTC
SC10 SCALER-PW164 + MEMORY
POWER O.K. SC7 SC13
STAND-BY SC7 OTC

I2C-IC Overview (FM23 AC/FM24 AB/FM33 AA)

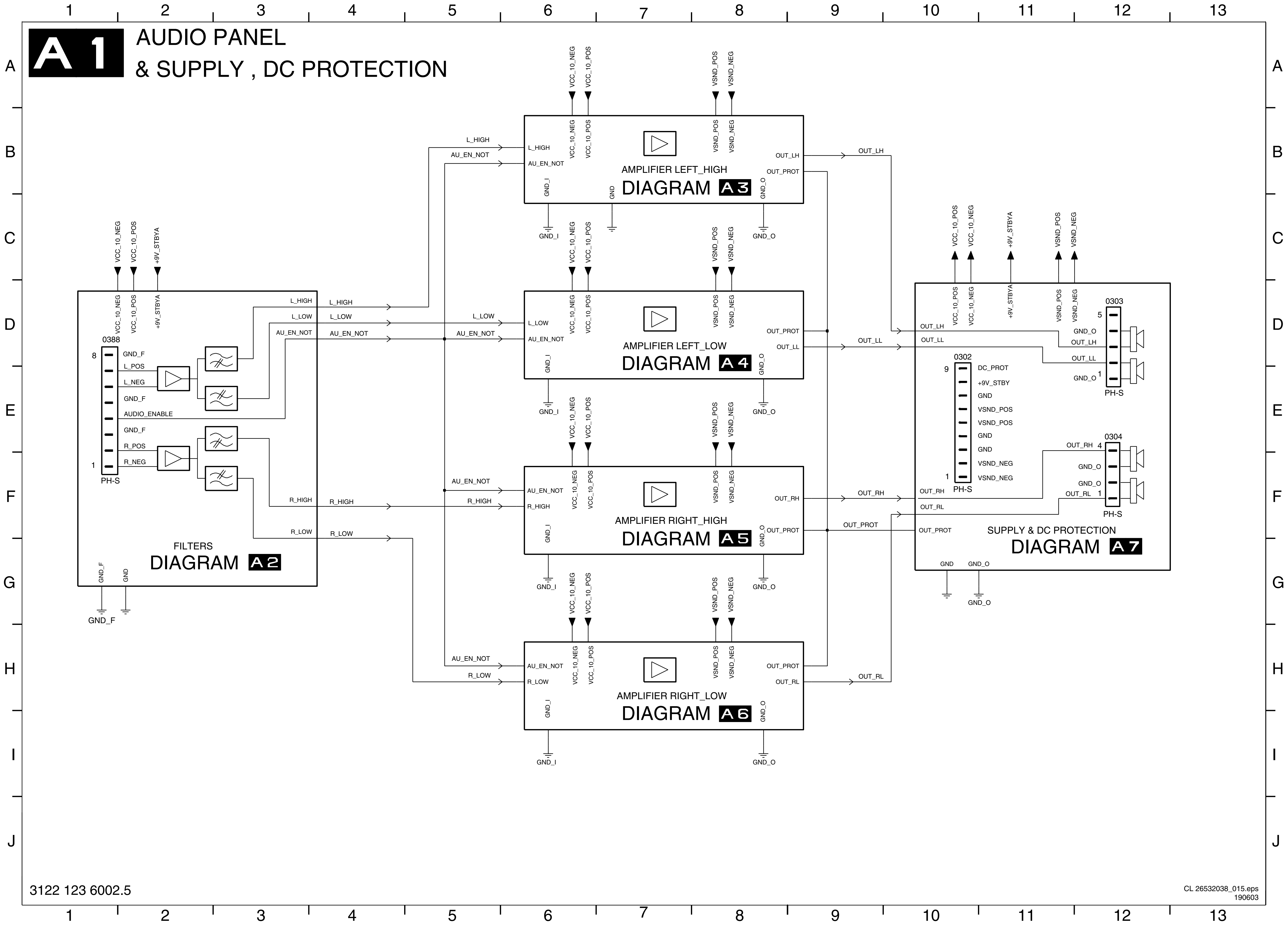

IIC
SC7 CONTROL FUNCTIONS 1
MASTER HW IIC
7383 SAA5801H
OTC MAIN-PROCESSOR (MASTER)
ERR 91
ERR 92
ERR 93
ERR 94
ERR 95
ERR 96
ERR 97
SLAVE HW IIC
MASTER HW IIC
+5V_STBY_SW
3414
3415
3404-C
3404-D
SDA-1
SCL-1
IIC BUS 1 (slow 100KHz)
0382
SERVICE COMPAIR CONNECTION
+3V3_CNTR_D
3410
3413
3404-A
3404-B
3398-C
SDA-2
SCL-2
PW_START
IIC BUS 2 (slow 100KHz)
+3V3_CNTL_D
IIC BUS 4
3432
3430
3402-B
3402-A
SDA_NVM_1
SCL_NVM_1
3433
3431
7430 M24C32 (NVM) EEPROM
ERR 7
74 RESET
4431
3384
PW_RESET
3007
PW_FLASH_RESET
DATA
ADDRESS
7500 MSM51V18165F RAM
7506 FLASH
SC8 CONTROL FUNCTIONS 2
3541
3540
7540 PCF8574AT I/O EXP.
ERR 3
SC9 CLOCK GENERATOR
7571
+5V
3532
3531
7530 PCF8591 ADC
ERR 4
SCL_SW
SDA_SW
3571
3570
7570 FS6377 CLOCK GENERATOR
ERR 5
SC14 AUDIO PROC.
4811
4810
3813
3812
7812 MSP3415G AUDIO PROC.
ERR 2
SC13 SOURCE SELECT
SCL_AUDIO
SDA_AUDIO
3795
3794
7798 TEA6422Q MATRIX SWITCH
ERR 1
SC8 CONTROL FUNCTIONS2
0319
P3 PROTECTION
3371
3370
7370 PCF8574A I/O EXP.
ERR 6
SC12 BACK-END LVDS OUTPUT
+3V3_STBY_SW
3681
3685
SDA-1_3V3
SCL-1_3V3
7676 BSN20
7675 BSN20
3682
3686
+3V3_STBY_SW
SC11 BACK-END EPLD
3664
3662
SLAVE IIC
7656 EP1K30FC256 EPLD
ERR 12
3663
3661
SC12 BACK-END LVDS OUTPUT
4680
4684
0301
PDP PLASMA DISPLAY PANEL
ERR 30
SC10 PW164
3608
3606
MASTER SW IIC
MASTER SW IIC
EXT INT
7605 PW164
CO-PROCESSOR FOR SCALER AND OSD
3604
3605
+3V3_PW
3601
3600
IIC BUS 3 (slow 100KHz)
PW_SDA
PW_SCL
SC9 NVM
IIC BUS 5
3602
3603
PW_SDA_NVM
PW_SCL_NVM
3583
3580
3582
3581
7580 M24C32 (NVM) EEPROM
ERR 8
PW_RESET
4581
7628 CY62126 RAM
7630 M29W160DT FLASH
6630
3633
SC4 VIDEO-SEL. ADC
3209
3210
7170 AD9887KS ADC + TMDS REC.
ERR 10
DVI-D INPUT SOCKET
0375
SCL
SDA
7215 ST24FC21 DDC EPROM
SC5 VIDEO-SEL. DECODER
3250
3251
3284
3285
7225 SAA7118E VIDEO DECODER
ERR 9
7280 SDA9400 DE-INTERLACER
ERR 11
VCA VGA CONNECTOR
VGA1 IN 15P"D"SHELL CONNECTOR
0371
DCC-SDA-1
DCC-SCL-1
7904 ST24FC21 DDC NVM
VGA2 IN/OUT 15P"D"SHELL CONNECTOR
0372
DCC-SDA-2
DCC-SCL-2
7907 ST24FC21 DDC NVM

Error	Device	Description	Item	Diagr.
1	TEA6422D	Audio switch (only *Enhanced*)	7798	SC13
2	MSP3451G	Sound processor	7812	SC14
3	PCF8574-SCAVIO	I/O expander SCAVIO	7540	SC8
4	PCF8591	AD-DA expander	7530	SC8
5	FS6377	Clock generator	7570	SC9
6	PCF8574-PSU	I/O expander PSU	7370	P3
7	24C16 OTC	NVM OTC	7430	SC7
8	24C16 PW	NVM PW	7580	SC9
9	SAA7118	Video decoder (only *Enhanced*)	7225	SC5
10	AD9887	ADC/TMDS receiver	7170	SC4
11	SDA9400	De-interlacer (only *Enhanced*)	7280	SC5
12	EP1K30QC	EPLD processor	7656	SC11
13	PDP	Display I2C error		
14	PDP H2-version (FHP)	The "high brightness" mode (only for H2) does not function		
15	LM75A	Temperature sensor I2C error (only for 37-inch)	7372	P3
20	Download comm.	Errors during downloading		
21	CSP comm.	CSP time-out error		
30	PDP	Display HW error		
31	PDP	Display warning code (e.g. loose connector or defective PSU)		
40	Temperature alarm	Detection of over-temperature		
70	V s overvoltage	Overvoltage on V s, V a, +3V3, +5V or a combination	7341	P3
71	V s undervoltage	Undervoltage on V s	7308A/B	P3
72	V a undervoltage	Undervoltage on V a	7308C/D	P3
73	+5V undervoltage	Undervoltage on +5V	7330A/B	P3
74	+3V3 undervoltage	Undervoltage on +3V3	7330C/D	P3
75	DC-PROT	Audio amplifier protection	7362	P3
76	TEMP-PSU	Over-temperature in PSU	7366A	P3
77	Protection with reason unknown	No valid protection can be read, but protection is active (PSU)		
78	Protection after several retries	PW Scaler will not start comm. with OTC after several retries		
9x	OTC	Internal OTC error (replace OTC)	7383	SC7

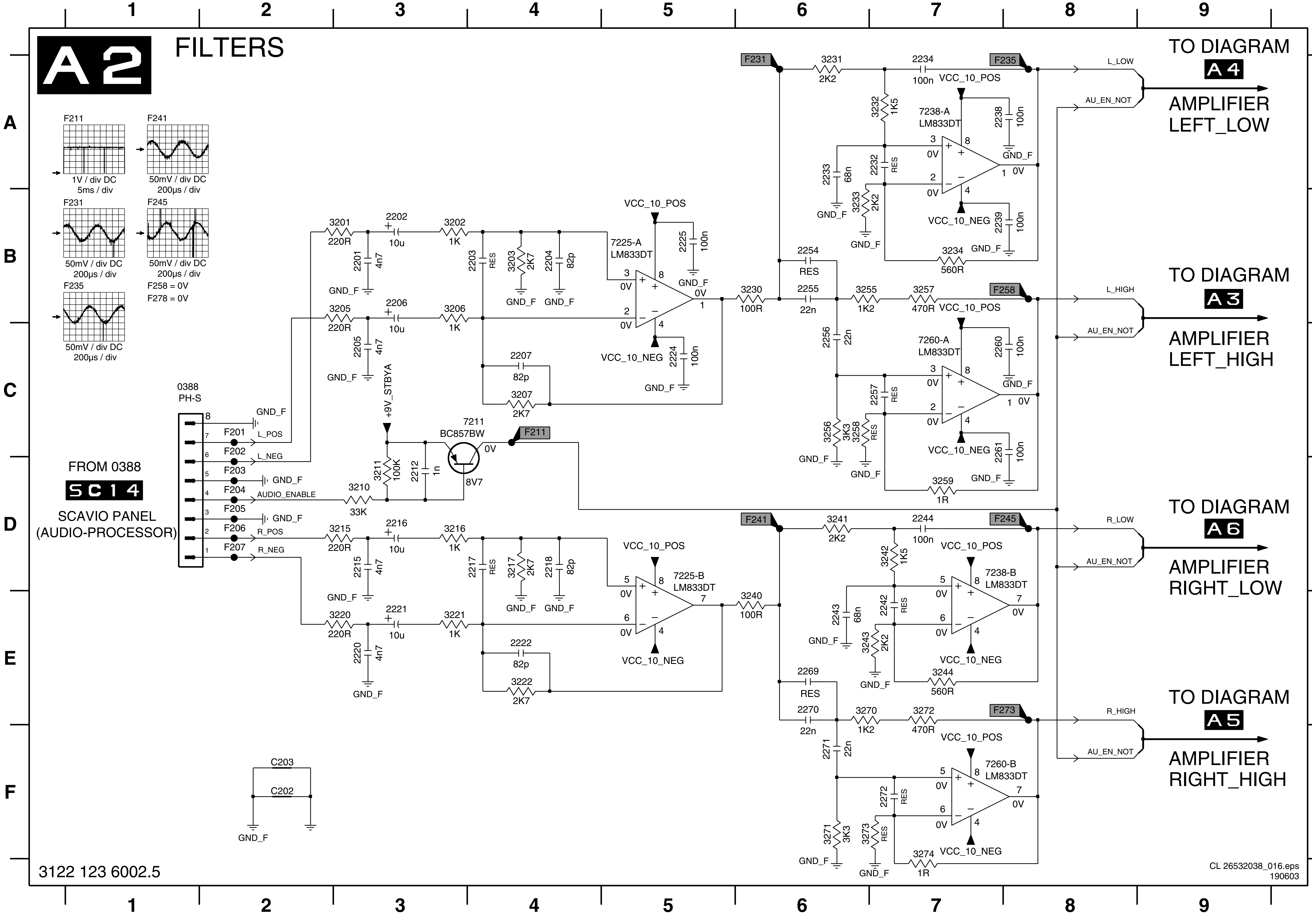
CL 36532051_034.eps
040703

7. Circuit Diagrams and PWB Layouts

Audio Panel & Supply: DC Protection


1 2 3 4 5 6 7 8 9 10 11 12 13
A B C D E F G H I J
A 1
AUDIO PANEL
& SUPPLY , DC PROTECTION
VCC_10_NEG
VCC_10_POS
VSND_POS
VSND_NEG
+9V_STBYA
L_HIGH
AU_EN_NOT
L_LOW
R_HIGH
R_LOW
GND_I
GND
GND_O
OUT_LH
OUT_PROT
OUT_LL
OUT_RH
OUT_RL
AMPLIFIER LEFT_HIGH
DIAGRAM A 3
AMPLIFIER LEFT_LOW
DIAGRAM A 4
AMPLIFIER RIGHT_HIGH
DIAGRAM A 5
AMPLIFIER RIGHT_LOW
DIAGRAM A 6
0388
8
1
GND_F
L_POS
L_NEG
AUDIO_ENABLE
R_POS
R_NEG
PH-S
FILTERS
DIAGRAM A 2
GND_F
0302
9
1
DC_PROT
+9V_STBY
VSND_POS
VSND_NEG
0303
5
1
0304
4
SUPPLY & DC PROTECTION
DIAGRAM A 7
3122 123 6002.5
CL 26532038_015.eps
190603

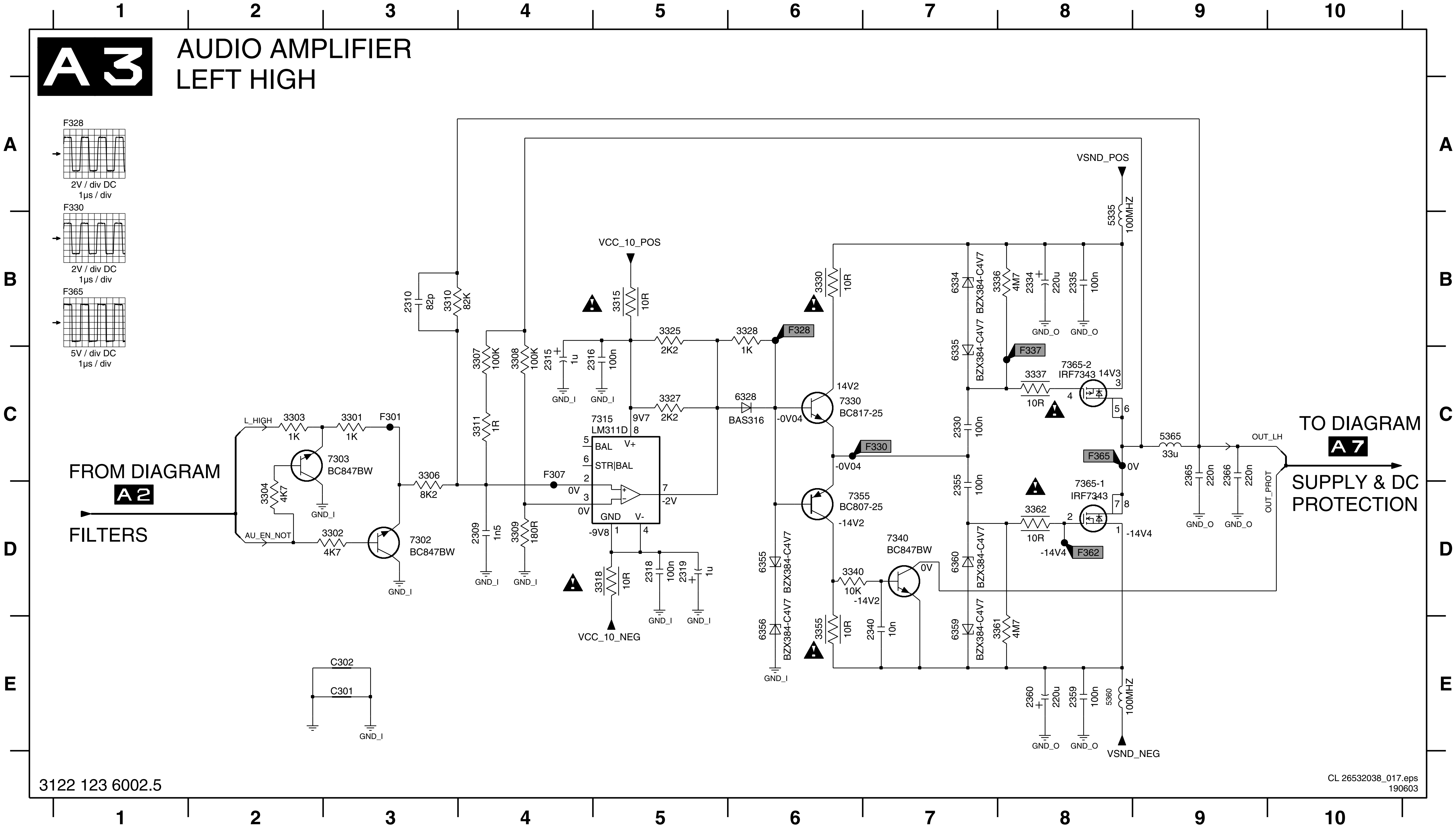
Audio Panel & Supply: Filters


A2
FILTERS
F211
1V / div DC
5ms / div
F241
50mV / div DC
200µs / div
F231
50mV / div DC
200µs / div
F245
50mV / div DC
200µs / div
F235
50mV / div DC
200µs / div
F258 = 0V
F278 = 0V
0388
PH-S
FROM 0388
SC14
SCAVIO PANEL
(AUDIO-PROCESSOR)
F201
F202
F203
F204
F205
F206
F207
L_POS
L_NEG
R_POS
R_NEG
AUDIO_ENABLE
GND_F
3201 220R
2202 10u
3202 1K
2201 4n7
2203 RES
3203 2K7
2204 82p
3205 220R
2206 10u
3206 1K
2205 4n7
2207 82p
3207 2K7
7225-A LM833DT
VCC_10_POS
VCC_10_NEG
2225 100n
2224 100n
+9V_STBYA
7211 BC857BW
3211 100K
2212 1n
3210 33K
8V7
0V
3215 220R
2216 10u
3216 1K
2215 4n7
2217 RES
3217 2K7
2218 82p
3220 220R
2221 10u
3221 1K
2220 4n7
2222 82p
3222 2K7
7225-B LM833DT
3230 100R
3240 100R
F231
3231 2K2
2234 100n
F235
3232 1K5
7238-A LM833DT
2238 100n
2233 68n
2232 RES
3233 2K2
2239 100n
3234 560R
2254 RES
2255 22n
3255 1K2
3257 470R
F258
2256 22n
7260-A LM833DT
2260 100n
2257 RES
3256 3K3
3258 RES
2261 100n
3259 1R
F241
3241 2K2
2244 100n
F245
3242 1K5
7238-B LM833DT
2243 68n
2242 RES
3243 2K2
3244 560R
2269 RES
2270 22n
3270 1K2
3272 470R
F273
2271 22n
7260-B LM833DT
2272 RES
3271 3K3
3273 RES
3274 1R
L_LOW
AU_EN_NOT
L_HIGH
R_LOW
R_HIGH
TO DIAGRAM
A4
AMPLIFIER
LEFT_LOW
TO DIAGRAM
A3
AMPLIFIER
LEFT_HIGH
TO DIAGRAM
A6
AMPLIFIER
RIGHT_LOW
TO DIAGRAM
A5
AMPLIFIER
RIGHT_HIGH
C203
C202
3122 123 6002.5
CL 26532038_016.eps
190603
1 2 3 4 5 6 7 8 9
A B C D E F

0388	C1
2201	B3
2202	B3
2203	B4
2204	B4
2205	C3
2206	B3
2207	C4
2212	D3
2215	D3
2216	D3
2217	D4
2218	D4
2220	E3
2221	E3
2222	E4
2224	C5
2225	B5
2232	A7
2233	A6
2234	A7
2238	A7
2239	B7
2242	E7
2243	E6
2244	D7
2254	B6
2255	B6
2256	C6
2257	C7
2260	C7
2261	C7
2269	E6
2270	E6
2271	F6
2272	F7
3201	B3
3202	B3
3203	B4
3205	B3
3206	B3
3207	C4
3210	D3
3211	D3
3215	D3
3216	D3
3217	D4
3220	E3
3221	E3
3222	E4
3230	B6
3231	A6
3232	A7
3233	B6
3234	B7
3240	E6
3241	D6
3242	D7
3243	E6
3244	E7
3255	B6
3256	C6
3257	B7
3258	C6
3259	D7
3270	E6
3271	F6
3272	E7
3273	F6
3274	F7
7211	C4
7225-A	B5
7225-B	D5
7238-A	A7
7238-B	D7
7260-A	C7
7260-B	F7
C202	F2
C203	F2
F201	C2
F202	C2
F203	D2
F204	D2
F205	D2
F206	D2
F207	D2
F211	C4
F231	A6
F235	A8
F241	D6
F245	D8
F258	B8
F273	E8

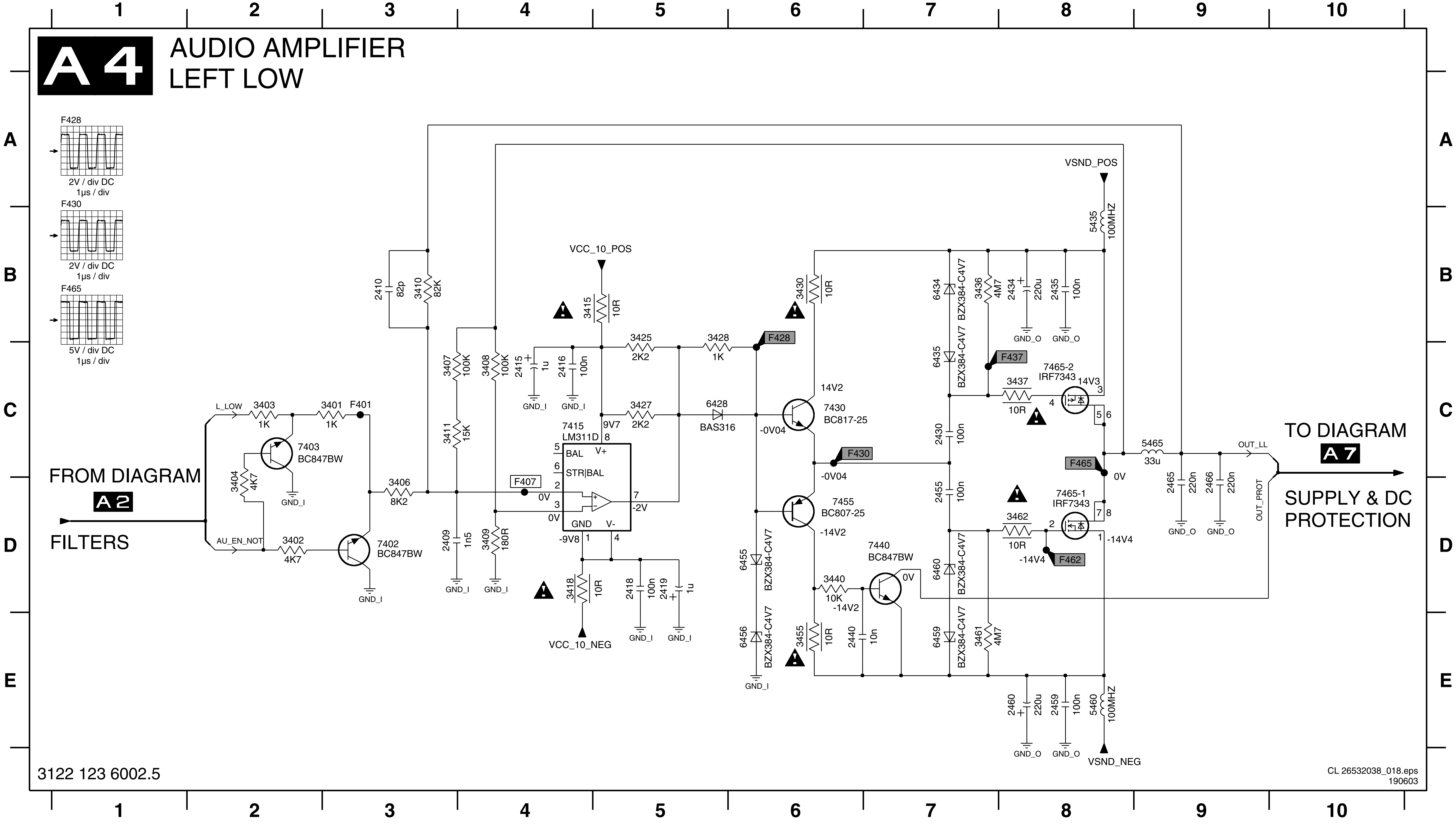
Audio Panel & Supply: Left High

2309	D4
2310	B3
2315	C4
2316	C5
2318	D5
2319	D5
2330	C7
2334	B8
2335	B8
2340	E7
2355	D7
2359	E8
2360	E8
2365	C9
2366	C9
3301	C3
3302	D3
3303	C2
3304	D2
3306	C3
3307	C4
3308	C4
3309	D4
3310	B3
3311	C4
3315	B5
3318	D5
3325	B5
3327	C5
3328	B6
3330	B6
3336	B8
3337	C8
3340	D6
3355	E6
3361	E8
3362	D8
5335	B8
5360	E8
5365	C9
6328	C6
6334	B7
6335	C7
6355	D6
6356	E6
6359	E7
6360	D7
7302	D3
7303	C3
7315	C4
7330	C6
7340	D7
7355	D6
7365-1	D8
7365-2	C8
C301	E3
C302	E3
F301	C3
F307	C4
F328	B6
F330	C7
F337	C8
F362	D8
F365	C8


A3
AUDIO AMPLIFIER
LEFT HIGH
F328
2V / div DC
1µs / div
F330
2V / div DC
1µs / div
F365
5V / div DC
1µs / div
FROM DIAGRAM
A2
FILTERS
L_HIGH
AU_EN_NOT
3303 1K
3301 1K
F301
7303 BC847BW
3304 4K7
GND_I
3302 4K7
7302 BC847BW
3306 8K2
2310 82p
3310 82K
3307 100K
3308 100K
3311 1R
2309 1n5
3309 180R
F307
VCC_10_POS
3315 10R
2315 1u
2316 100n
3325 2K2
3327 2K2
7315 LM311D
BAL
STR|BAL
V+
GND
V-
9V7
0V
-2V
-9V8
3318 10R
VCC_10_NEG
2318 100n
2319 1u
3328 1K
F328
6328 BAS316
3330 10R
14V2
7330 BC817-25
-0V04
F330
7355 BC807-25
-14V2
6355 BZX384-C4V7
6356 BZX384-C4V7
3340 10K
7340 BC847BW
2340 10n
3355 10R
VSND_POS
5335 100MHZ
6334 BZX384-C4V7
3336 4M7
2334 220u
2335 100n
GND_O
6335 BZX384-C4V7
F337
3337 10R
7365-2 IRF7343
14V3
2330 100n
2355 100n
F365
7365-1 IRF7343
3362 10R
-14V4
F362
6360 BZX384-C4V7
6359 BZX384-C4V7
3361 4M7
2360 220u
2359 100n
5360 100MHZ
VSND_NEG
5365 33u
OUT_LH
2365 220n
2366 220n
OUT_PROT
TO DIAGRAM
A7
SUPPLY & DC
PROTECTION
C302
C301
3122 123 6002.5
CL 26532038_017.eps
190603

Audio Panel & Supply: Left Low

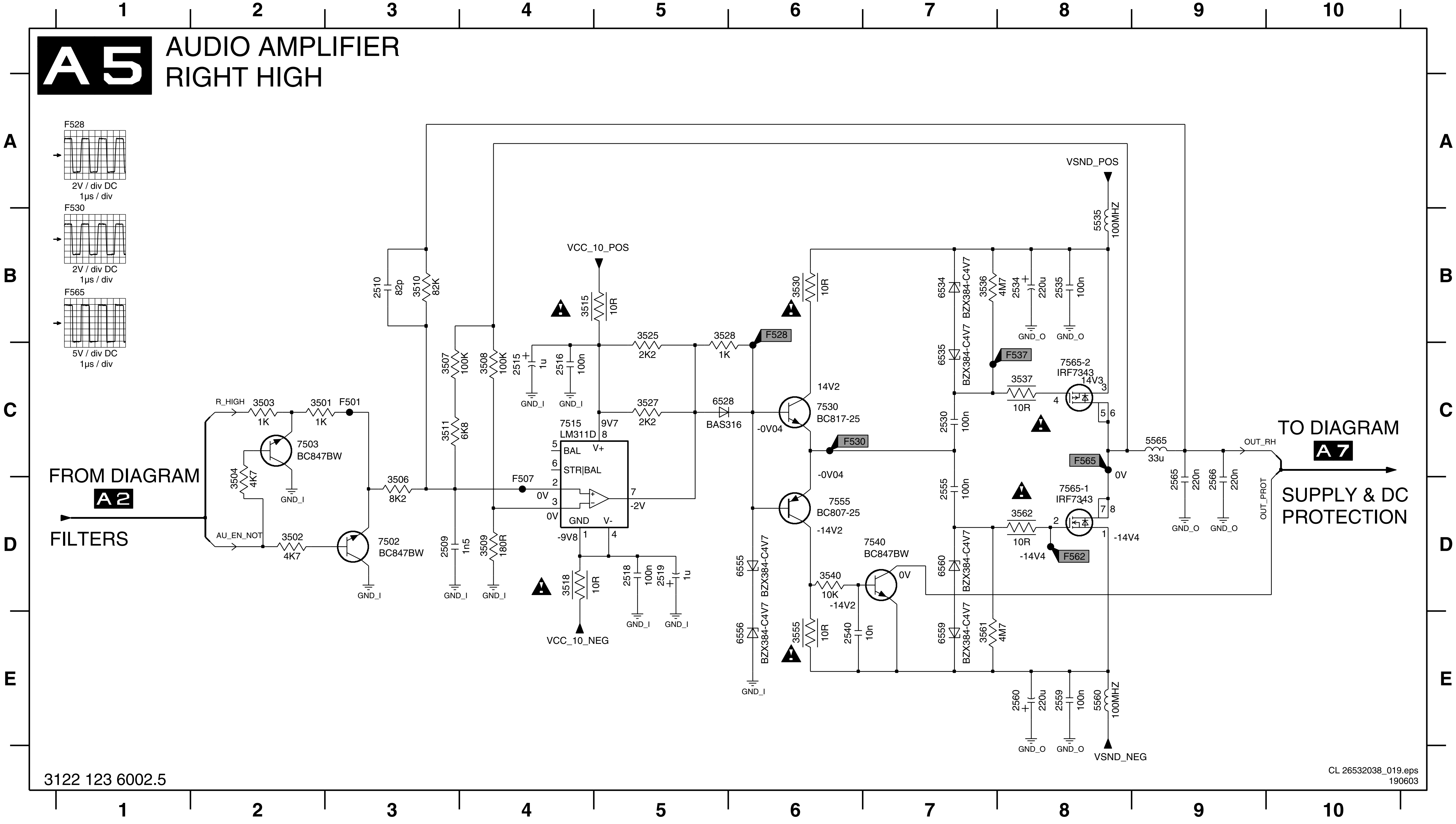
2409 D3
2410 B3
2415 C4
2416 C4
2418 D5
2419 D5
2430 C7
2434 B8
2435 B8
2440 E6
2455 D7
2459 E8
2460 E8
2465 D9
2466 D9
3401 C3
3402 D2
3403 C2
3404 D2
3406 C3
3407 C3
3408 C4
3409 D4
3410 B3
3411 C3
3415 B4
3418 D4
3425 B5
3427 C5
3428 B5
3430 B6
3436 B7
3437 C8
3440 D6
3455 E6
3461 E7
3462 D8
5435 B8
5460 E8
5465 C9
6428 C5
6434 B7
6435 C7
6455 D6
6456 E6
6459 E7
6460 D7
7402 D3
7403 C2
7415 C4
7430 C6
7440 D7
7455 D6
7465-1 D8
7465-2 C8
F401 C3
F407 D4
F428 B6
F430 C6
F437 C8
F462 D8
F465 C8



A 4
AUDIO AMPLIFIER
LEFT LOW
1 2 3 4 5 6 7 8 9 10
A B C D E
F428
2V / div DC
1μs / div
F430
2V / div DC
1μs / div
F465
5V / div DC
1μs / div
FROM DIAGRAM
A2
FILTERS
L_LOW
AU_EN_NOT
3403
1K
3401
1K
F401
7403
BC847BW
3404
4K7
GND_I
3402
4K7
7402
BC847BW
GND_I
3406
8K2
2410
82p
3410
82K
3407
100K
3408
100K
3411
15K
2409
1n5
3409
180R
GND_I
GND_I
F407
0V
0V
VCC_10_POS
3415
10R
2415
1u
2416
100n
GND_I
GND_I
3425
2K2
3427
2K2
9V7
7415
LM311D
8
5 BAL
V+
6 STR|BAL
2
3
7
-2V
GND
V-
-9V8
1
4
3418
10R
VCC_10_NEG
2418
100n
2419
1u
GND_I
GND_I
3428
1K
F428
6428
BAS316
6455
BZX384-C4V7
6456
BZX384-C4V7
GND_I
3430
10R
14V2
7430
BC817-25
-0V04
F430
-0V04
7455
BC807-25
-14V2
3440
10K
-14V2
7440
BC847BW
0V
3455
10R
2440
10n
6434
BZX384-C4V7
6435
BZX384-C4V7
F437
3436
4M7
2434
220u
2435
100n
GND_O
GND_O
2430
100n
2455
100n
6460
BZX384-C4V7
6459
BZX384-C4V7
3461
4M7
3437
10R
7465-2
IRF7343
14V3
3
4
5 6
F465
0V
7465-1
IRF7343
3462
10R
2
7 8
1
-14V4
-14V4
F462
VSND_POS
5435
100MHZ
5465
33u
OUT_LL
OUT_PROT
2465
220n
2466
220n
GND_O
GND_O
2460
220u
2459
100n
5460
100MHZ
GND_O
GND_O
VSND_NEG
TO DIAGRAM
A7
SUPPLY & DC
PROTECTION
3122 123 6002.5
CL 26532038_018.eps
190603

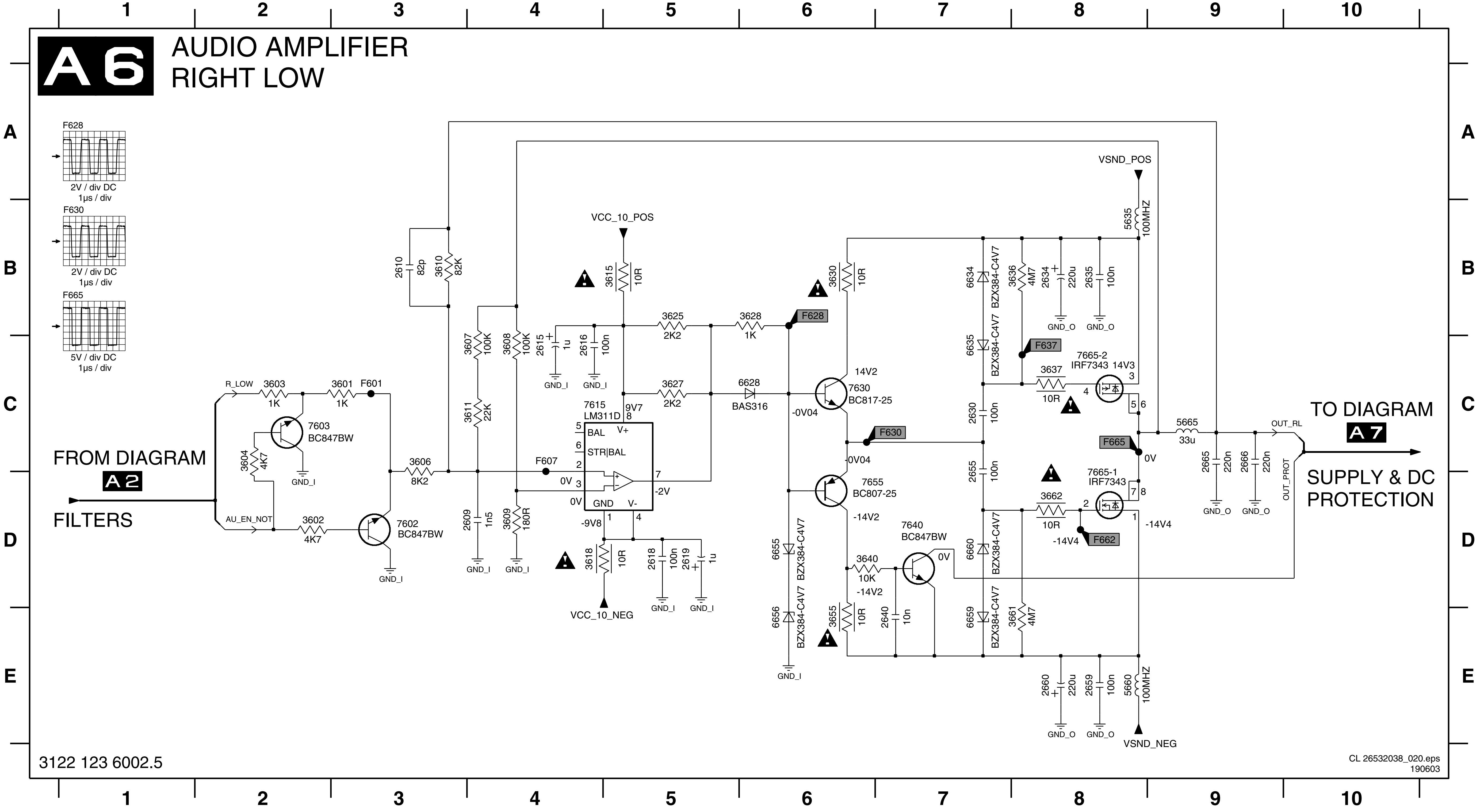
Audio Panel & Supply: Right High

2509 D3
2510 B3
2515 C4
2516 C4
2518 D5
2519 D5
2530 C7
2534 B8
2535 B8
2540 E6
2555 D7
2559 E8
2560 E8
2565 D9
2566 D9
3501 C2
3502 D2
3503 C2
3504 D2
3506 D3
3507 C3
3508 C4
3509 D4
3510 B3
3511 C3
3515 B4
3518 D4
3525 B5
3527 C5
3528 B5
3530 B6
3536 B7
3537 C8
3540 D6
3555 E6
3561 E7
3562 D8
5535 B8
5560 E8
5565 C9
6528 C5
6534 B7
6535 C7
6555 D6
6556 E6
6559 E7
6560 D7
7502 D3
7503 C2
7515 C4
7530 C6
7540 D7
7555 D6
7565-1 D8
7565-2 C8
F501 C3
F507 D4
F528 B6
F530 C6
F537 C8
F562 D8
F565 C8

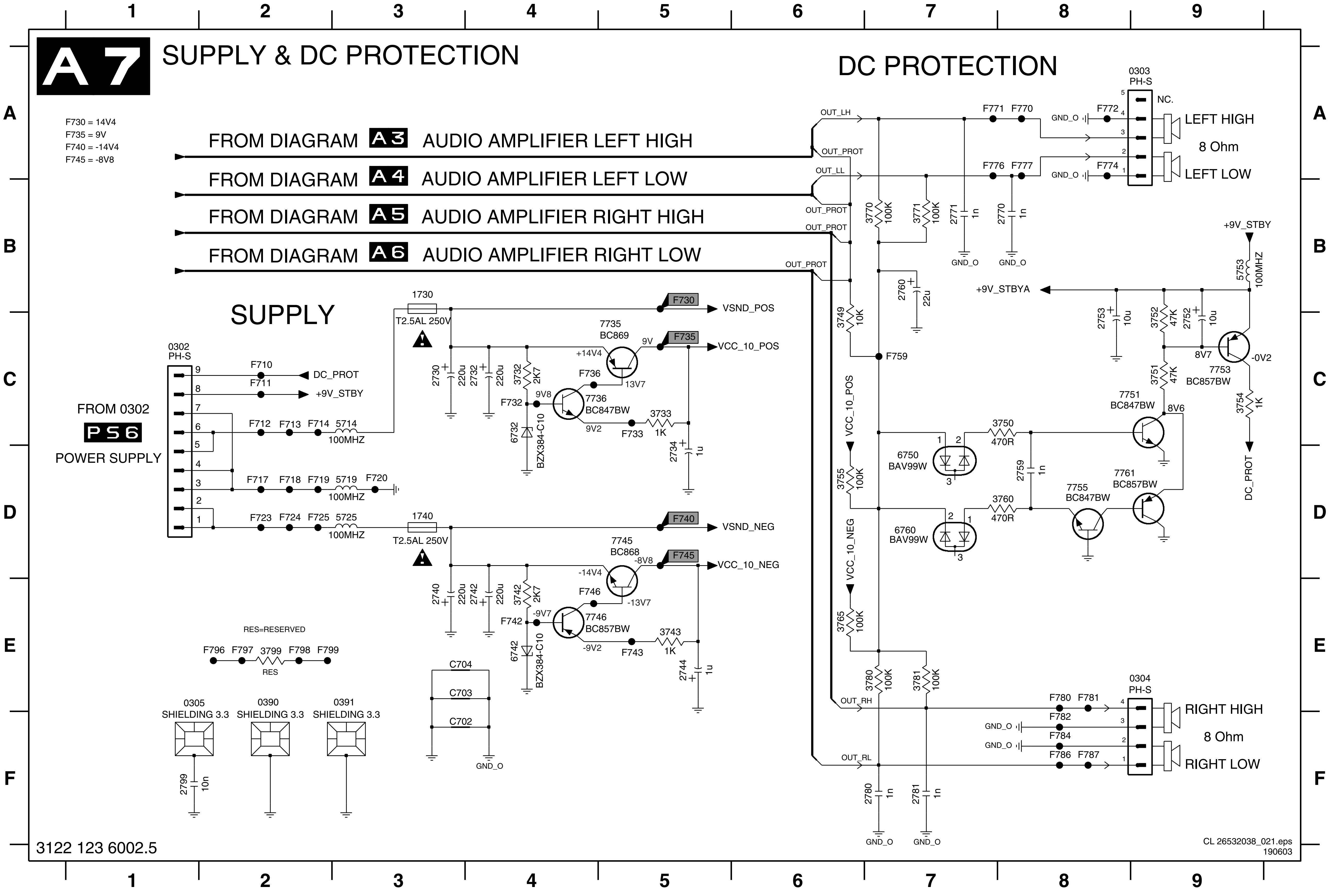

A5
AUDIO AMPLIFIER
RIGHT HIGH
1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F528
2V / div DC
1µs / div
F530
2V / div DC
1µs / div
F565
5V / div DC
1µs / div
FROM DIAGRAM
A2
FILTERS
R_HIGH
AU_EN_NOT
3503
1K
3501
1K
F501
7503
BC847BW
3504
4K7
3502
4K7
7502
BC847BW
GND_I
3506
8K2
2510
82p
3510
82K
3507
100K
3511
6K8
3508
100K
2509
1n5
3509
180R
VCC_10_POS
3515
10R
2515
1u
2516
100n
7515
LM311D
9V7
BAL
V+
STR|BAL
GND
V-
F507
0V
-2V
-9V8
3518
10R
VCC_10_NEG
2518
100n
2519
1u
3525
2K2
3527
2K2
3528
1K
F528
6528
BAS316
-0V04
6555
BZX384-C4V7
6556
BZX384-C4V7
3530
10R
14V2
7530
BC817-25
F530
-0V04
7555
BC807-25
-14V2
3540
10K
-14V2
7540
BC847BW
0V
3555
10R
2540
10n
6534
BZX384-C4V7
6535
BZX384-C4V7
2530
100n
2555
100n
6560
BZX384-C4V7
6559
BZX384-C4V7
3536
4M7
2534
220u
2535
100n
GND_O
F537
3537
10R
7565-2
IRF7343
14V3
VSND_POS
5535
100MHZ
3562
10R
-14V4
F562
7565-1
IRF7343
-14V4
F565
0V
3561
4M7
2560
220u
2559
100n
5560
100MHZ
VSND_NEG
5565
33u
2565
220n
2566
220n
OUT_RH
OUT_PROT
TO DIAGRAM
A7
SUPPLY & DC
PROTECTION
3122 123 6002.5
CL 26532038_019.eps
190603

Audio Panel & Supply: Right Low

2609	D4
2610	B3
2615	C4
2616	C4
2618	D5
2619	D5
2630	C7
2634	B8
2635	B8
2640	E7
2655	C7
2659	E8
2660	E8
2665	C9
2666	C9
3601	C3
3602	D2
3603	C2
3604	C2
3606	C3
3607	C4
3608	C4
3609	D4
3610	B3
3611	C4
3615	B5
3618	D4
3625	B5
3627	C5
3628	B6
3630	B6
3636	B8
3637	C8
3640	D6
3655	E6
3661	E8
3662	D8
5635	B8
5660	E8
5665	C9
6628	C6
6634	B7
6635	C7
6655	D6
6656	E6
6659	E7
6660	D7
7602	D3
7603	C2
7615	C4
7630	C6
7640	D7
7655	D6
7665-1	D8
7665-2	C8
F601	C3
F607	C4
F628	B6
F630	C7
F637	C8
F662	D8
F665	C8


A6
AUDIO AMPLIFIER
RIGHT LOW
1 2 3 4 5 6 7 8 9 10
A B C D E
F628
2V / div DC
1µs / div
F630
2V / div DC
1µs / div
F665
5V / div DC
1µs / div
FROM DIAGRAM
A2
FILTERS
R_LOW
AU_EN_NOT
3603 1K
3601 1K
F601
7603 BC847BW
3604 4K7
GND_I
3602 4K7
7602 BC847BW
GND_I
2610 82p
3610 82K
3606 8K2
3607 100K
3608 100K
3611 22K
2609 1n5
3609 180R
GND_I
GND_I
F607
VCC_10_POS
3615 10R
2615 1u
2616 100n
GND_I
GND_I
3625 2K2
3627 2K2
3628 1K
6628 BAS316
F628
7615
LM311D
9V7
8
5 BAL
V+
6 STR|BAL
2
0V
3
0V
GND
V-
7
-2V
1
4
-9V8
3618 10R
VCC_10_NEG
2618 100n
2619 1u
GND_I
GND_I
3630 10R
14V2
7630 BC817-25
-0V04
F630
-0V04
7655 BC807-25
-14V2
6655 BZX384-C4V7
6656 BZX384-C4V7
GND_I
3640 10K
-14V2
7640 BC847BW
0V
3655 10R
2640 10n
6634 BZX384-C4V7
6635 BZX384-C4V7
3636 4M7
2634 220u
2635 100n
GND_O
GND_O
F637
2630 100n
2655 100n
3637 10R
7665-2 IRF7343 14V3
3
4
5 6
F665
0V
7665-1 IRF7343
7 8
2
1
3662 10R
-14V4
F662
-14V4
6660 BZX384-C4V7
6659 BZX384-C4V7
3661 4M7
2660 220u
2659 100n
GND_O
GND_O
5660 100MHZ
VSND_NEG
VSND_POS
5635 100MHZ
5665 33u
2665 220n
2666 220n
GND_O
GND_O
OUT_RL
OUT_PROT
TO DIAGRAM
A7
SUPPLY & DC
PROTECTION
3122 123 6002.5
CL 26532038_020.eps
190603

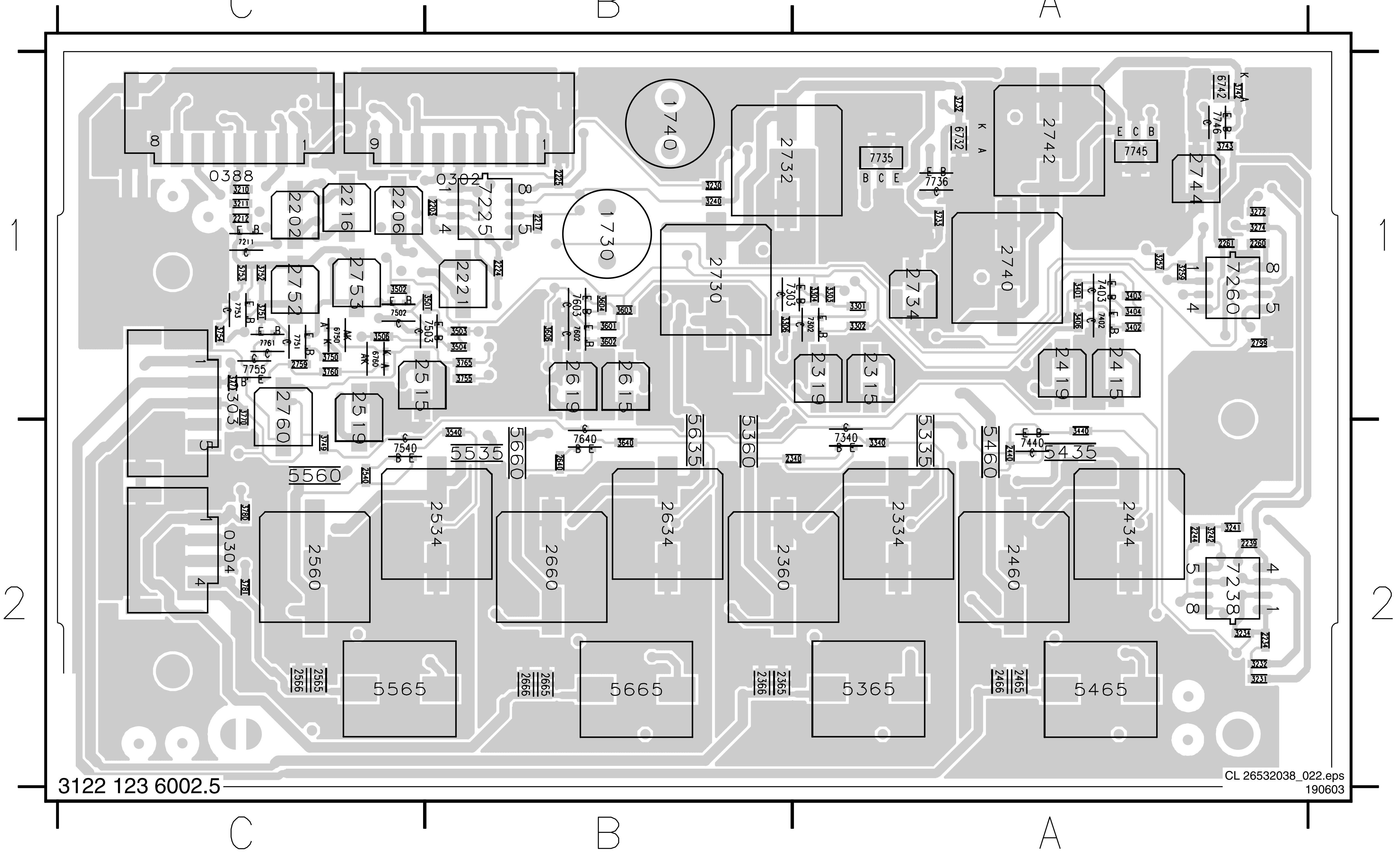
Audio Panel & Supply: Supply and DC Protection


A7
SUPPLY & DC PROTECTION
F730 = 14V4
F735 = 9V
F740 = -14V4
F745 = -8V8
FROM DIAGRAM A3 AUDIO AMPLIFIER LEFT HIGH
FROM DIAGRAM A4 AUDIO AMPLIFIER LEFT LOW
FROM DIAGRAM A5 AUDIO AMPLIFIER RIGHT HIGH
FROM DIAGRAM A6 AUDIO AMPLIFIER RIGHT LOW
SUPPLY
FROM 0302
PS6
POWER SUPPLY
0302
PH-S
F710
F711
DC_PROT
+9V_STBY
F712 F713 F714 5714 100MHZ
F717 F718 F719 5719 100MHZ F720
F723 F724 F725 5725 100MHZ
1730
T2.5AL 250V
1740
T2.5AL 250V
2730 220u
2732 220u
2740 220u
2742 220u
3732 2K7
3742 2K7
6732 BZX384-C10
6742 BZX384-C10
7735 BC869
7736 BC847BW
7745 BC868
7746 BC857BW
+14V4
-14V4
9V8
-9V7
9V2
-9V2
13V7
-13V7
9V
-8V8
F730
VSND_POS
F735
VCC_10_POS
F740
VSND_NEG
F745
VCC_10_NEG
F732 F733 F736
F742 F743 F746
3733 1K
3743 1K
2734 1u
2744 1u
RES=RESERVED
F796 F797 3799 F798 F799
RES
0305 SHIELDING 3.3
0390 SHIELDING 3.3
0391 SHIELDING 3.3
2799 10n
C704
C703
C702
GND_O
DC PROTECTION
0303
PH-S
NC.
LEFT HIGH
8 Ohm
LEFT LOW
OUT_LH
OUT_PROT
OUT_LL
OUT_PROT
OUT_PROT
OUT_PROT
F771 F770
F772
F776 F777
F774
3770 100K
3771 100K
2771 1n
2770 1n
2760 22u
3749 10K
F759
+9V_STBY
+9V_STBYA
5753 100MHZ
2753 10u
3752 47K
2752 10u
8V7
7753 BC857BW
-0V2
3751 47K
3754 1K
DC_PROT
7751 BC847BW
8V6
3750 470R
6750 BAV99W
2759 1n
7761 BC857BW
7755 BC847BW
3760 470R
6760 BAV99W
VCC_10_POS
VCC_10_NEG
3755 100K
3765 100K
3780 100K
3781 100K
OUT_RH
OUT_RL
0304
PH-S
F780 F781
F782
F784
F786 F787
RIGHT HIGH
8 Ohm
RIGHT LOW
2780 1n
2781 1n
3122 123 6002.5
CL 26532038_021.eps
190603

0302	C1
0303	A8
0304	E8
0305	E1
0390	E2
0391	E3
1730	B3
1740	D3
2730	C3
2732	C4
2734	D5
2740	E3
2742	E4
2744	E5
2752	C9
2753	C8
2759	D8
2760	B7
2770	B8
2771	B7
2780	F7
2781	F7
2799	F1
3732	C4
3733	C5
3742	E4
3743	E5
3749	C6
3750	C8
3751	C9
3752	C9
3754	C9
3755	D6
3760	D8
3765	E6
3770	B7
3771	B7
3780	E7
3781	E7
3799	E2
5714	C3
5719	D3
5725	D3
5753	B9
6732	C4
6742	E4
6750	D7
6760	D7
7735	C5
7736	C4
7745	D5
7746	E4
7751	C8
7753	C9
7755	D8
7761	D9
C702	F3
C703	E3
C704	E3
F710	C2
F711	C2
F712	C2
F713	C2
F714	C2
F717	D2
F718	D2
F719	D2
F720	D3
F723	D2
F724	D2
F725	D2
F730	B5
F732	C4
F733	C5
F735	C5
F736	C4
F740	D5
F742	E4
F743	E5
F745	D5
F746	E4
F759	C7
F770	A8
F771	A8
F772	A8
F774	A8
F776	A8
F777	A8
F780	E8
F781	E8
F782	F8
F784	F8
F786	F8
F787	F8
F796	E2
F797	E2
F798	E2
F799	E2

Layout Audio Panel (Top Side)

0302	B1	2216	C1	2315	A1	2440	A2	2566	C2	2734	A1	3211	C1	3272	A1	3403	A1	3601	B1	3749	C2	3780	C2	5565	C2	7225	B1	7503	B1	7753	C1
0303	C1	2217	B1	2319	A1	2460	A2	2615	B1	2740	A1	3230	B1	3274	A1	3404	A1	3602	B1	3750	C1	3781	C2	5635	B2	7238	A2	7540	C2	7755	C1
0304	C2	2221	B1	2334	A2	2465	A2	2619	B1	2742	A1	3231	A2	3301	A1	3406	A1	3603	B1	3751	C1	5335	A2	5660	B2	7260	A1	7602	B1	7761	C1
0388	C1	2224	B1	2340	A2	2466	A2	2634	B2	2744	A1	3232	A2	3302	A1	3440	A2	3604	B1	3752	C1	5360	B2	5665	B2	7302	A1	7603	B1		
1730	B1	2225	B1	2360	B2	2515	C1	2640	B2	2752	C1	3234	A2	3303	A1	3501	B1	3606	B1	3754	C1	5365	A2	5753	C1	7303	B1	7640	B2		
1740	B1	2234	A2	2365	B2	2519	C1	2660	B2	2753	C1	3240	B1	3304	A1	3502	C1	3640	B2	3755	B1	5435	A2	6732	A1	7340	A2	7735	A1		
2202	C1	2239	A2	2366	B2	2534	B2	2665	B2	2759	C1	3241	A2	3306	B1	3503	B1	3732	A1	3760	C1	5460	A2	6742	A1	7402	A1	7736	A1		
2203	B1	2244	A2	2415	A1	2540	C2	2666	B2	2760	C1	3242	A2	3340	A2	3504	B1	3733	A1	3765	B1	5465	A2	6750	C1	7403	A1	7745	A1		
2206	C1	2260	A1	2419	A1	2560	C2	2730	B1	2799	A1	3257	A1	3401	A1	3506	C1	3742	A1	3770	C1	5535	B2	6760	C1	7440	A2	7746	A1		
2212	C1	2261	A1	2434	A2	2565	C2	2732	B1	3210	C1	3259	A1	3402	A1	3540	B2	3743	A1	3771	C1	5560	C2	7211	C1	7502	C1	7751	C1		


C
B
A
1
2
0388
0302
1740
1730
2732
2742
2744
7735
7736
7745
2202
2216
2206
7225
2752
2753
2221
2730
2734
2740
7260
2760
2519
2515
2619
2615
2319
2315
2419
2415
0303
0304
7540
7640
7340
7440
5535
5560
5660
5635
5360
5335
5460
5435
2560
2534
2660
2634
2360
2334
2460
2434
7238
5565
5665
5365
5465
2566
2565
2666
2665
2366
2365
2466
2465

3122 123 6002.5

CL 26532038_022.eps
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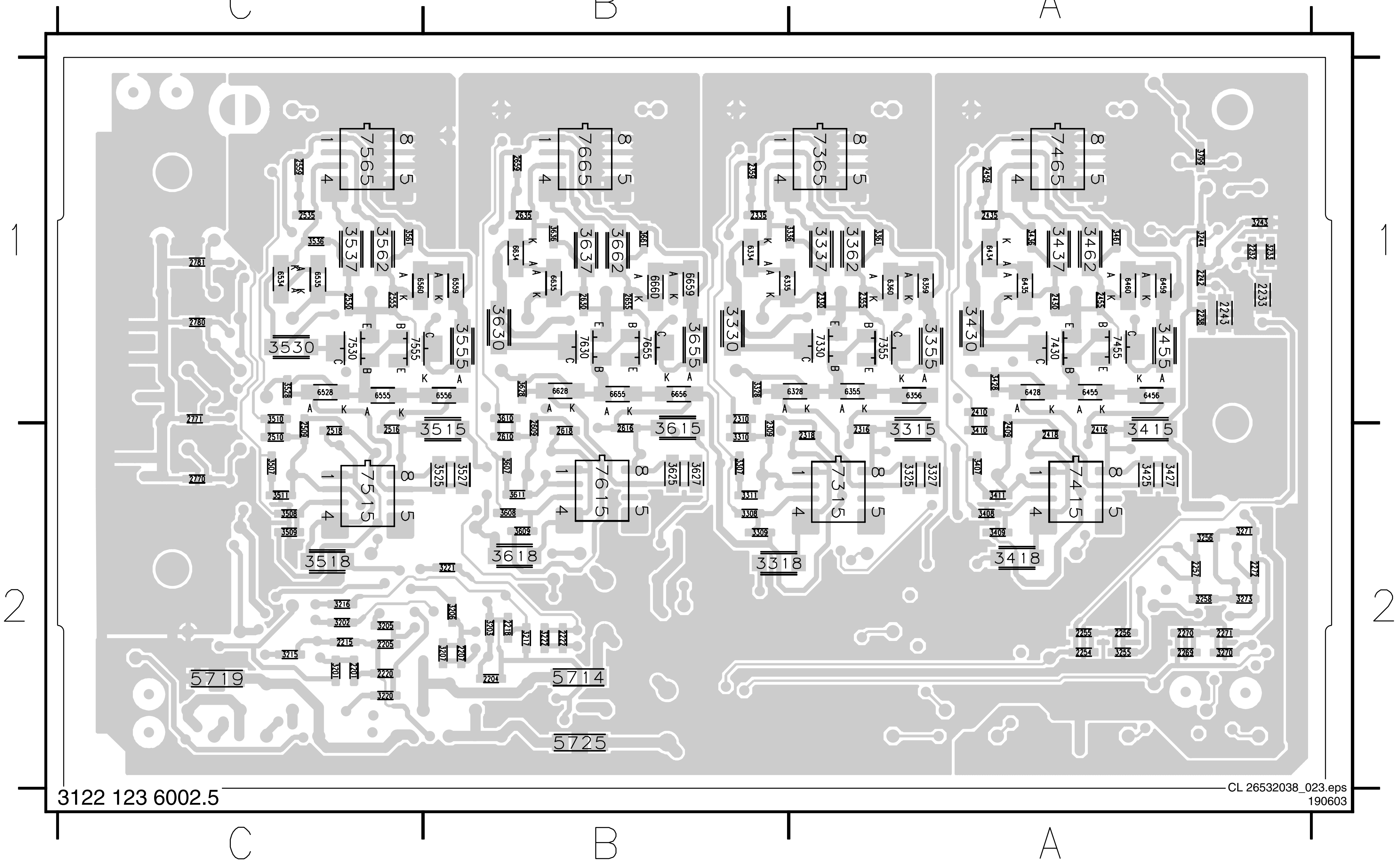
Layout Audio Panel (Bottom Side)

2201	C2	2255	A2	2359	B1	2535	C1	2781	C1	3243	A1	3318	B2	3411	A2	3509	C2	3607	B2	3661	B1	6434	A1	6634	B1	7515	C2
2204	B2	2256	A2	2409	A2	2555	C1	3201	C2	3244	A1	3325	A2	3415	A2	3510	C1	3608	B2	3662	B1	6435	A1	6635	B1	7530	C1
2205	C2	2257	A2	2410	A1	2559	C1	3202	C2	3255	A2	3327	A2	3418	A2	3511	C2	3609	B2	3799	A1	6455	A1	6655	B1	7555	C1
2207	B2	2269	A2	2416	A2	2609	B2	3203	B2	3256	A2	3328	B1	3425	A2	3515	B2	3610	B1	5714	B2	6456	A1	6656	B1	7565	C1
2215	C2	2270	A2	2418	A2	2610	B2	3205	C2	3258	A2	3330	B1	3427	A2	3518	C2	3611	B2	5719	C2	6459	A1	6659	B1	7615	B2
2218	B2	2271	A2	2430	A1	2616	B2	3206	B2	3270	A2	3336	A1	3428	A1	3525	B2	3615	B2	5725	B2	6460	A1	6660	B1	7630	B1
2220	C2	2272	A2	2435	A1	2618	B2	3207	B2	3271	A2	3337	A1	3430	A1	3527	B2	3618	B2	6328	A1	6528	C1	7315	A2	7655	B1
2222	B2	2309	B2	2455	A1	2630	B1	3215	C2	3273	A2	3355	A1	3436	A1	3528	C1	3625	B2	6334	B1	6534	C1	7330	A1	7665	B1
2232	A1	2310	B1	2459	A1	2635	B1	3216	C2	3307	B2	3361	A1	3437	A1	3530	C1	3627	B2	6335	B1	6535	C1	7355	A1		
2233	A1	2316	A2	2509	C2	2655	B1	3217	B2	3308	B2	3362	A1	3455	A1	3536	C1	3628	B1	6355	A1	6555	C1	7365	A1		
2238	A1	2318	A2	2510	C2	2659	B1	3220	C2	3309	B2	3407	A2	3461	A1	3537	C1	3630	B1	6356	A1	6556	B1	7415	A2		
2242	A1	2330	A1	2516	C2	2770	C2	3221	B2	3310	B2	3408	A2	3462	A1	3555	B1	3636	B1	6359	A1	6559	B1	7430	A1		
2243	A1	2335	B1	2518	C2	2771	C1	3222	B2	3311	B2	3409	A2	3507	C2	3561	C1	3637	B1	6360	A1	6560	C1	7455	A1		
2254	A2	2355	A1	2530	C1	2780	C1	3233	A1	3315	A2	3410	A2	3508	C2	3562	C1	3655	B1	6428	A1	6628	B1	7465	A1		


C
B
A
1
2
7565
7665
7365
7465
3537
3562
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3662
3337
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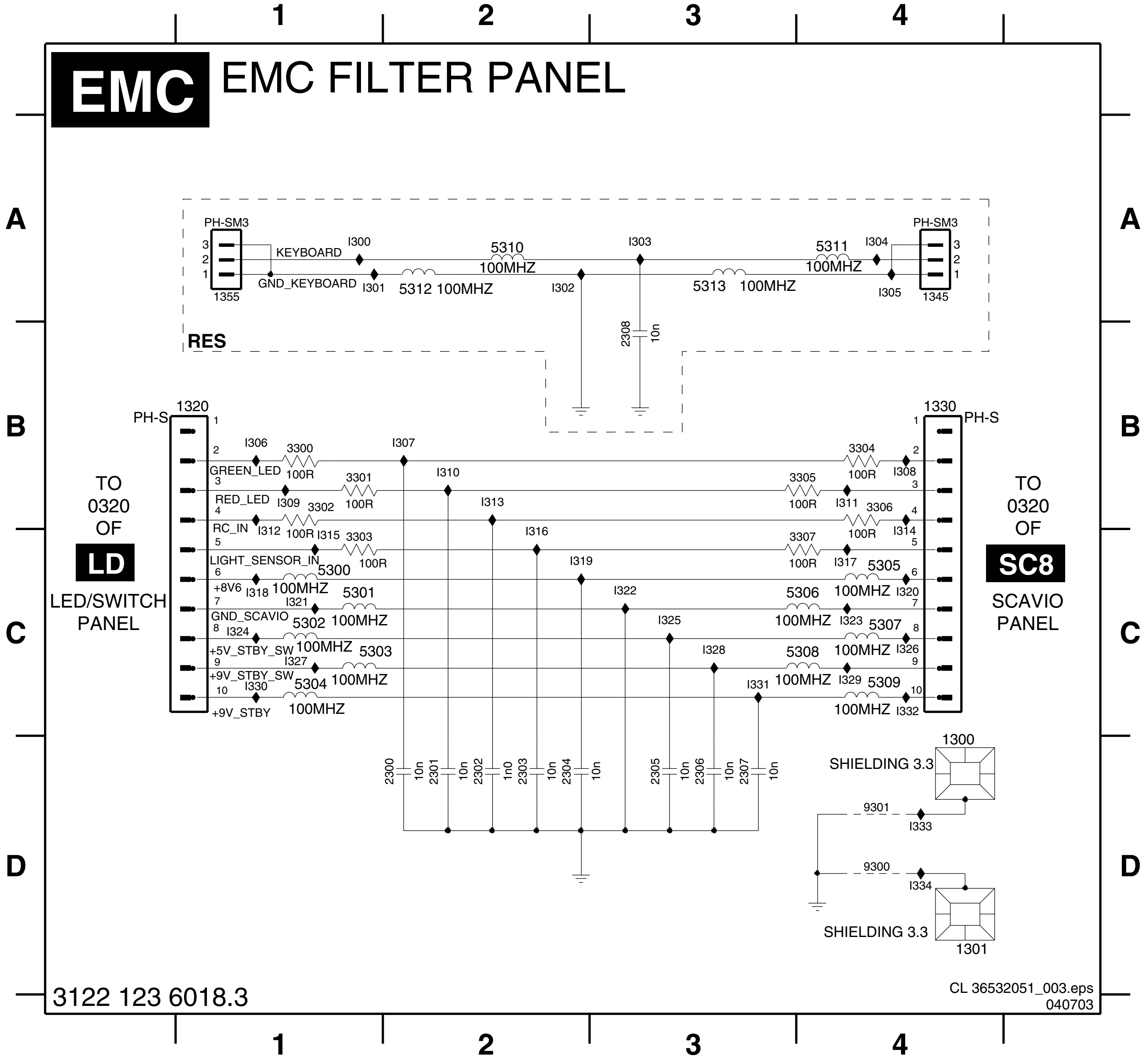
3462
3530
3630
3330
3430
3555
3655
3355
3455
7530
7555
7630
7655
7330
7355
7430
7455
3515
3615
3315
3415
7515
7615
7315
7415
3518
3618
3318
3418
5719
5714
5725
2243
2233
3122 123 6002.5
CL 26532038_023.eps
190603

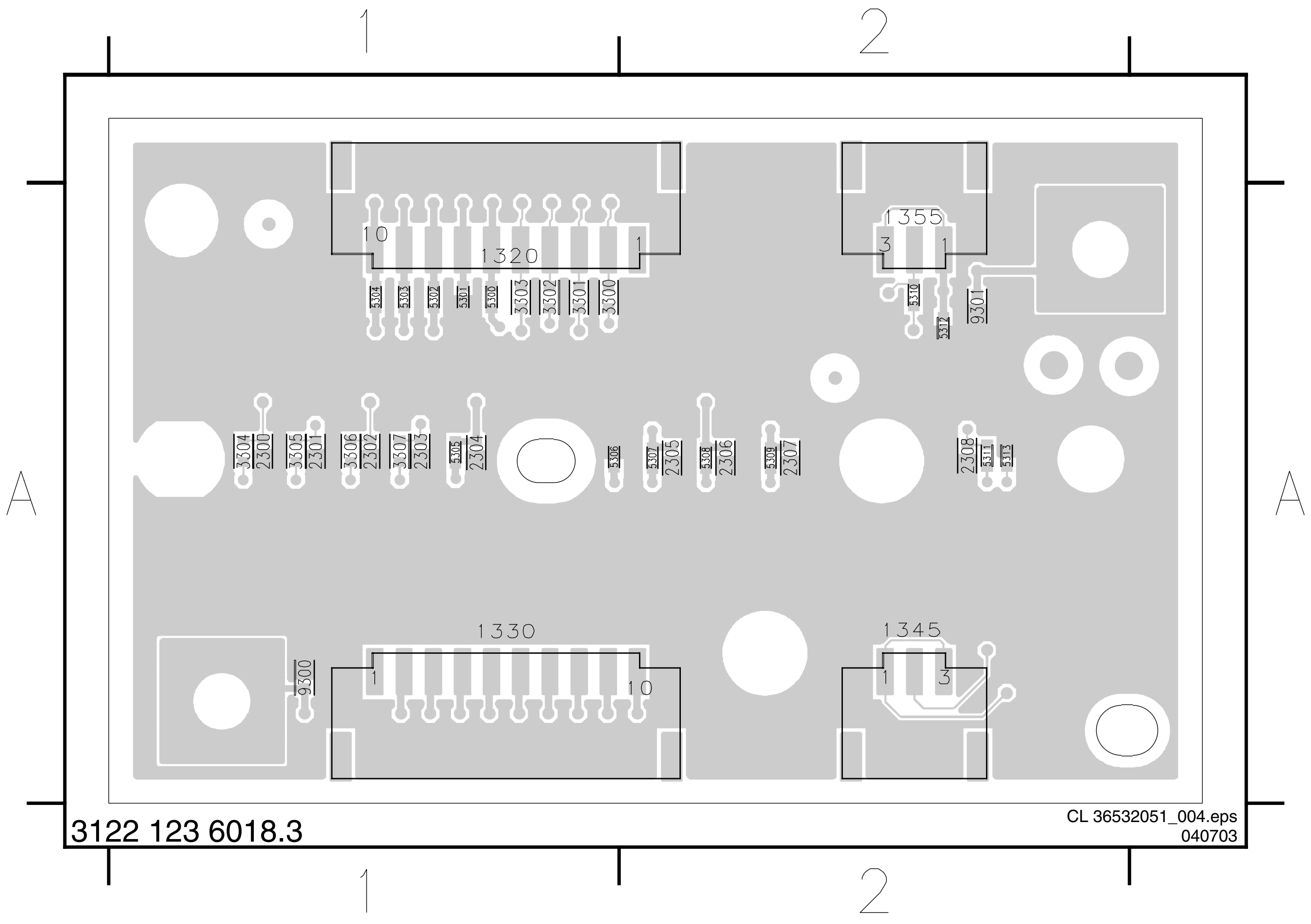
EMC Filter Panel

1300 D4
1301 D4
1320 B1
1330 B4
1345 A4
1355 A1
2300 D2
2301 D2
2302 D2
2303 D2
2304 D2
2305 D3
2306 D3
2307 D3
2308 A3
3300 B1
3301 B1
3302 B1
3303 C1
3304 B4
3305 B4
3306 B4
3307 C4
5300 C1
5301 C1
5302 C1
5303 C1
5304 C1
5305 C4
5306 C4
5307 C4
5308 C4
5309 C4
5310 A2
5311 A4
5312 A2
5313 A3
9300 D4
9301 D4
I300 A1
I301 A1
I302 A2
I303 A3
I304 A4
I305 A4
I306 B1
I307 B2
I308 B4
I309 B1
I310 B2
I311 B4
I312 C1
I313 B2
I314 C4
I315 C1
I316 C2
I317 C4
I318 C1
I319 C2
I320 C4
I321 C1
I322 C3
I323 C4
I324 C1
I325 C3
I326 C4
I327 C1
I328 C3
I329 C4
I330 C1
I331 C3
I332 C4
I333 D4
I334 D4

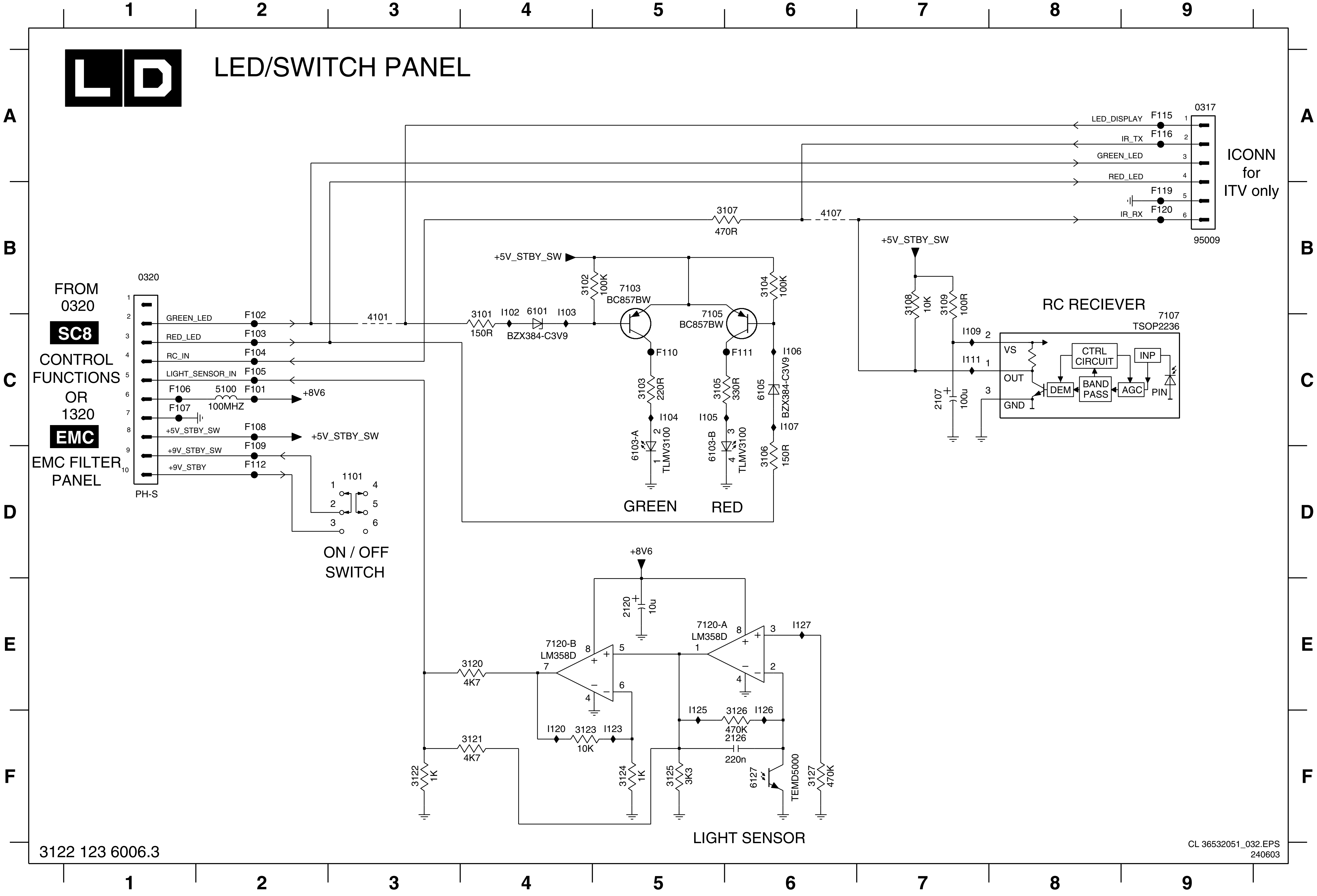

1
2
3
4
A
B
C
D
EMC
EMC FILTER PANEL
PH-SM3
KEYBOARD
GND_KEYBOARD
I300
I301
5310
100MHZ
5312 100MHZ
I302
I303
5313 100MHZ
5311
100MHZ
I304
I305
1355
1345
2308
10n
RES
1320
PH-S
1330
TO
0320
OF
LD
LED/SWITCH
PANEL
SC8
SCAVIO
PANEL
GREEN_LED
RED_LED
RC_IN
LIGHT_SENSOR_IN
+8V6
GND_SCAVIO
+5V_STBY_SW
+9V_STBY_SW
+9V_STBY
3300
3301
3302
3303
3304
3305
3306
3307
100R
5300
5301
5302
5303
5304
5305
5306
5307
5308
5309
2300
2301
2302
2303
2304
2305
2306
2307
10n
1n0
SHIELDING 3.3
1300
1301
9300
9301
I333
I334
3122 123 6018.3
CL 36532051_003.eps
040703

Layout EMC Filter Panel (Top Side)

1320 A1
1330 A1
1345 A2
1355 A2
2300 A1
2301 A1
2302 A1
2303 A1
2304 A1
2305 A2
2306 A2
2307 A2
2308 A2
3300 A1
3301 A1
3302 A1
3303 A1
3304 A1
3305 A1
3306 A1
3307 A1
5300 A1
5301 A1
5302 A1
5303 A1
5304 A1
5305 A1
5306 A1
5307 A2
5308 A2
5309 A2
5310 A2
5311 A2
5312 A2
5313 A2
9300 A1
9301 A2

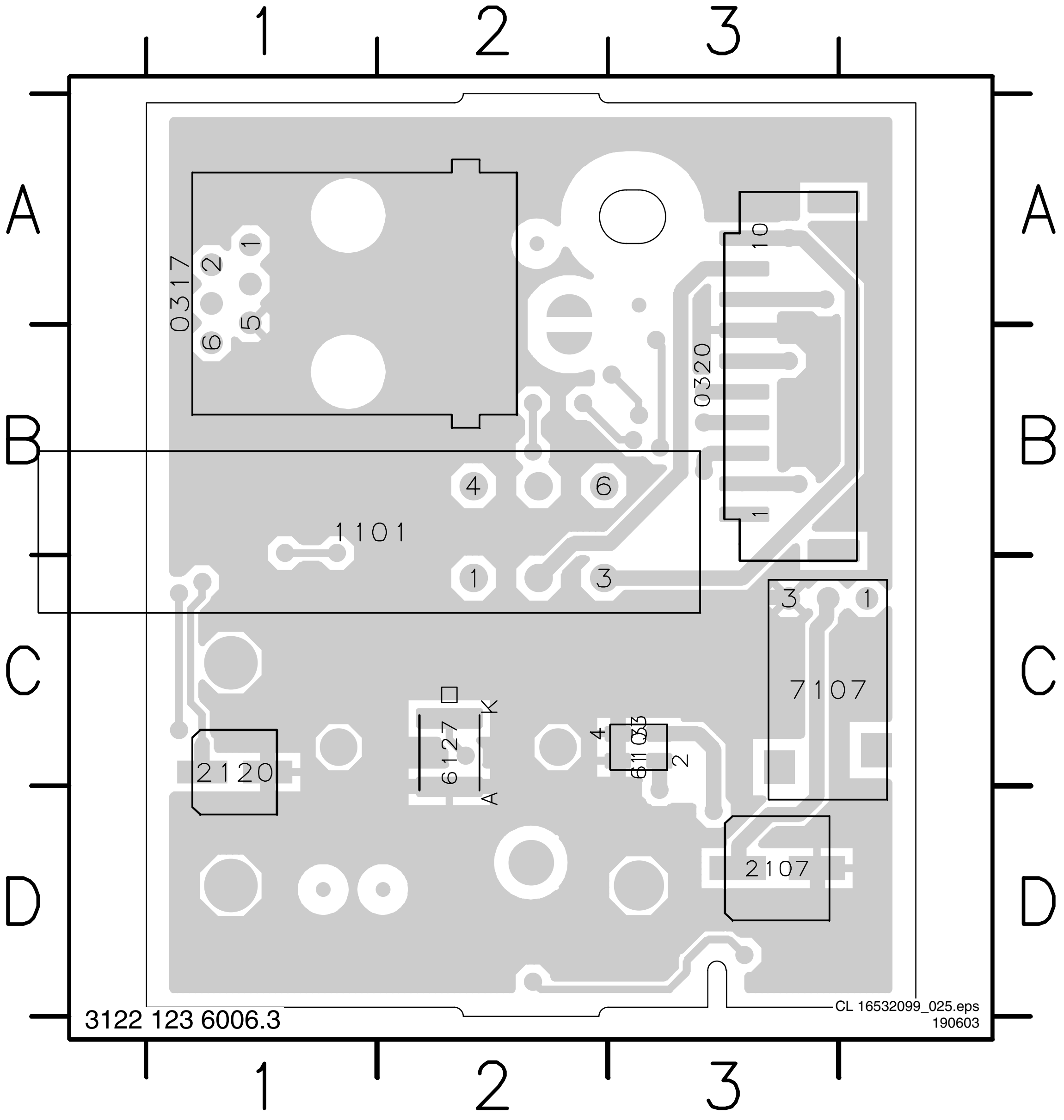

1
2
A
1320
1330
1345
1355
9300
9301
3122 123 6018.3
CL 36532051_004.eps
040703

LED/Switch Panel (for Sets with Speakers)


LD
LED/SWITCH PANEL
FROM 0320
SC8
CONTROL FUNCTIONS OR 1320
EMC
EMC FILTER PANEL
0320
PH-S
GREEN_LED
RED_LED
RC_IN
LIGHT_SENSOR_IN
+5V_STBY_SW
+9V_STBY_SW
+9V_STBY
F101
F102
F103
F104
F105
F106
F107
F108
F109
F112
5100
100MHZ
+8V6
+5V_STBY_SW
4101
3101
150R
I102
6101
I103
BZX384-C3V9
3102
100K
7103
BC857BW
7105
BC857BW
3104
100K
F110
F111
I106
3103
220R
3105
330R
6105
BZX384-C3V9
I104
I105
I107
6103-A
6103-B
TLMV3100
3106
150R
GREEN
RED
1101
ON / OFF SWITCH
LED_DISPLAY
IR_TX
GREEN_LED
RED_LED
IR_RX
F115
F116
F119
F120
0317
95009
ICONN for ITV only
3107
470R
4107
+5V_STBY_SW
3108
10K
3109
100R
I109
I111
2107
100u
RC RECIEVER
7107
TSOP2236
VS
OUT
GND
CTRL CIRCUIT
INP
DEM
BAND PASS
AGC
PIN
+8V6
2120
10u
7120-B
LM358D
7120-A
LM358D
I127
3120
4K7
3121
4K7
I120
3123
10K
I123
I125
3126
470K
I126
2126
220n
3122
1K
3124
1K
3125
3K3
6127
TEMD5000
3127
470K
LIGHT SENSOR
3122 123 6006.3
CL 36532051_032.EPS
240603
A
B
C
D
E
F
1
2
3
4
5
6
7
8
9

0317	A9
0320	B1
1101	D3
2107	C7
2120	E5
2126	F6
3100	C2
3101	C4
3102	B4
3103	C5
3104	B6
3105	C5
3106	D6
3107	B6
3108	B7
3109	B7
3120	E4
3121	F4
3122	F3
3123	F4
3124	F5
3125	F5
3126	F6
3127	F6
4101	C3
4107	B6
6101	C4
6103-A	C5
6103-B	D5
6105	C6
6127	F6
7103	B5
7105	B5
7107	C9
7120-A	E6
7120-B	E4
F101	C2
F102	C2
F103	C2
F104	C2
F105	C2
F106	C1
F107	C1
F108	C2
F109	D2
F110	C5
F111	C6
F112	D2
F115	A9
F116	A9
F119	B9
F120	B9
I102	B4
I103	B4
I104	C5
I105	C5
I106	C6
I107	C6
I109	C7
I111	C7
I120	F4
I123	F5
I125	E5
I126	E6
I127	E6

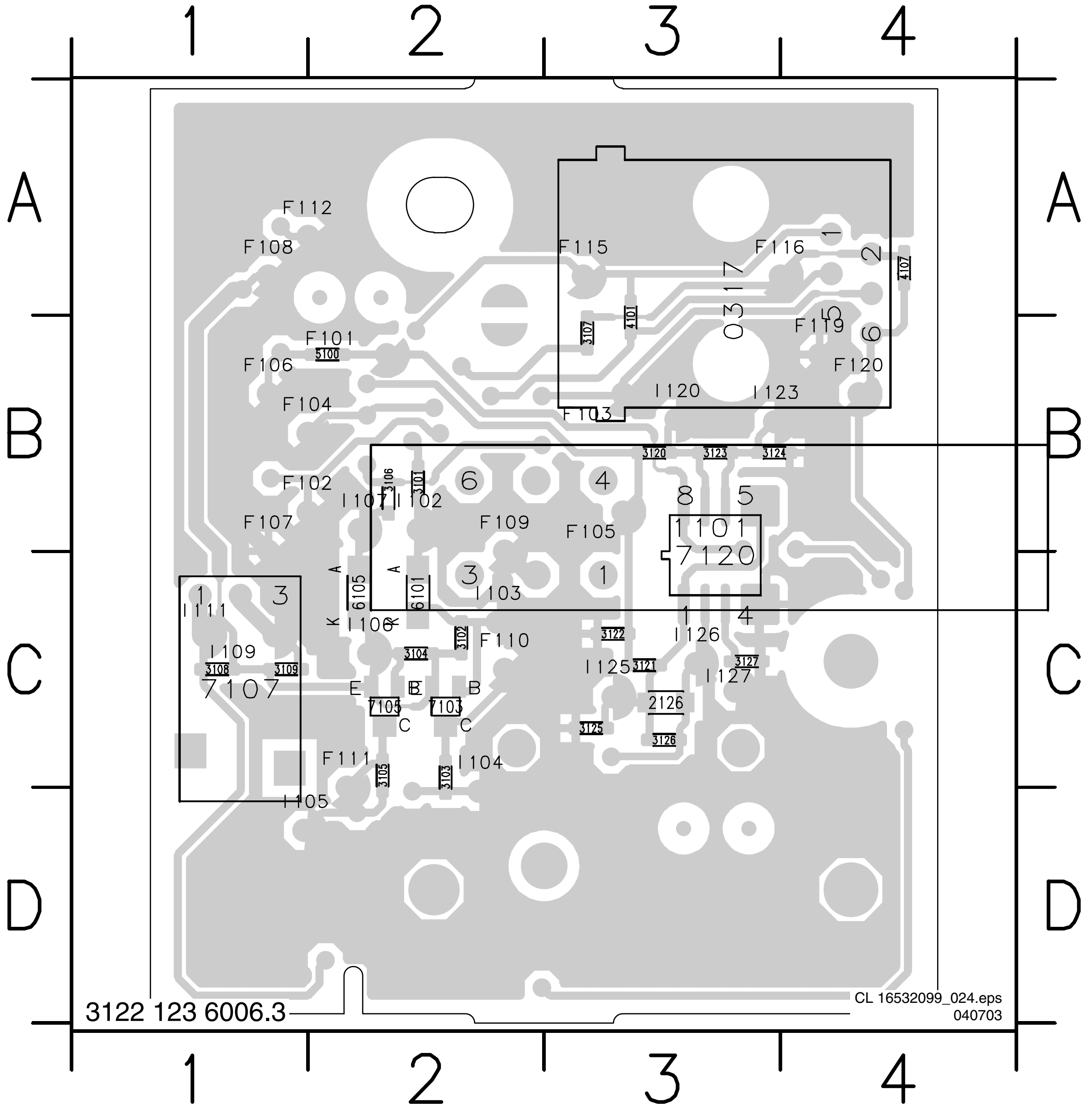
Layout LED/Switch Panel (for Sets with Speakers) (Top Side)


1
2
3
A
B
C
D
0317
1
2
5
6
0320
10
1
1101
4
6
1
3
3
1
7107
2120
6127
K
A
6103
4
2
2107
3122 123 6006.3

CL 16532099_025.eps
190603

0317	A1
0320	B3
1101	B1
2107	D3
2120	C1
6103	C3
6127	C2
7107	C3

Layout LED/Switch Panel (for Sets with Speakers) (Bottom Side)

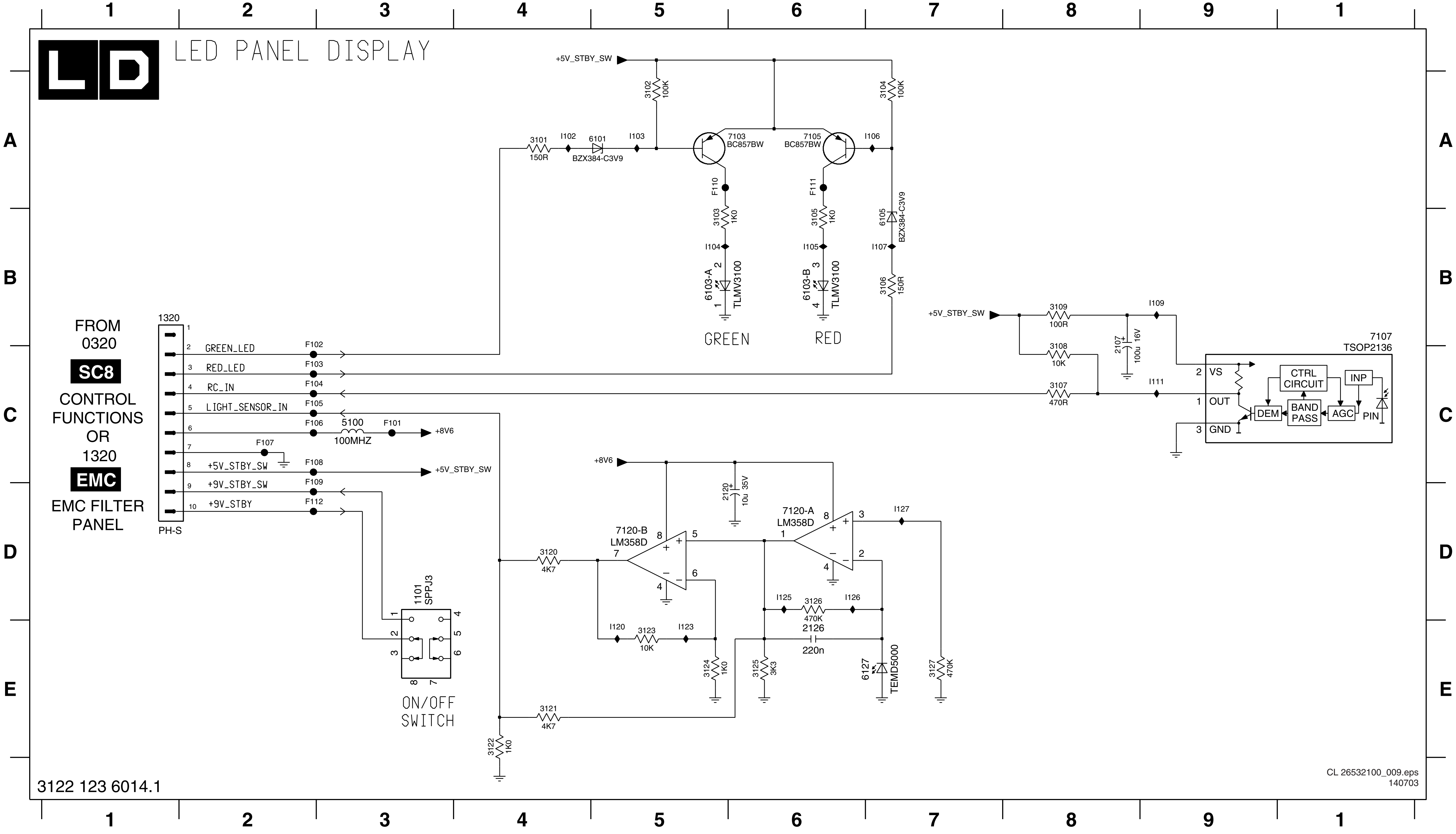

1
2
3
4
A
B
C
D
F112
F108
F115
F116
0317
1
2
5
6
4107
F119
F120
F101
5100
F106
3101
3102
I120
I123
F104
F103
3120
3123
3124
F102
F107
3106
3101
6
4
8
5
I107
I102
F109
F105
1101
7120
3
1
I103
1
4
6105
6101
A
K
1
3
I111
I106
F110
3122
I126
I109
3108
3109
7107
3104
3102
I125
3121
3127
I127
E
B
7105
7103
C
2126
3125
3126
F111
I104
3105
3103
I105
3122 123 6006.3

CL 16532099_024.eps
040703

0317	A4
1101	B3
2126	C3
3101	B2
3102	C2
3103	C2
3104	C2
3105	C2
3106	B2
3107	B3
3108	C1
3109	C1
3120	B3
3121	C3
3122	C3
3123	B3
3124	B3
3125	C3
3126	C3
3127	C3
4101	B3
4107	A4
5100	B2
6101	C2
6105	C2
7103	C2
7105	C2
7107	C1
7120	C3

LED Panel Display (for Speakerless Sets)

1101	D3
1320	B1
2107	B8
2120	D5
2126	E6
3101	A4
3102	A5
3103	B5
3104	A7
3105	B6
3106	B7
3107	C8
3108	C8
3109	B8
3120	D4
3121	E4
3122	E4
3123	E5
3124	E5
3125	E6
3126	D6
3127	E7
5100	C2
6101	A5
6103-A	B5
6103-B	B6
6105	B7
6127	E7
7103	A5
7105	A6
7107	B10
7120-A	D6
7120-B	D5
F101	C2
F102	C2
F103	C2
F104	C2
F105	C2
F106	C2
F107	C2
F108	C2
F109	D2
F110	A5
F111	A6
F112	D2
I102	A4
I103	A5
I104	B5
I105	B6
I106	A7
I107	B7
I109	B9
I111	C9
I120	E5
I123	E5
I125	D6
I126	D6
I127	D7

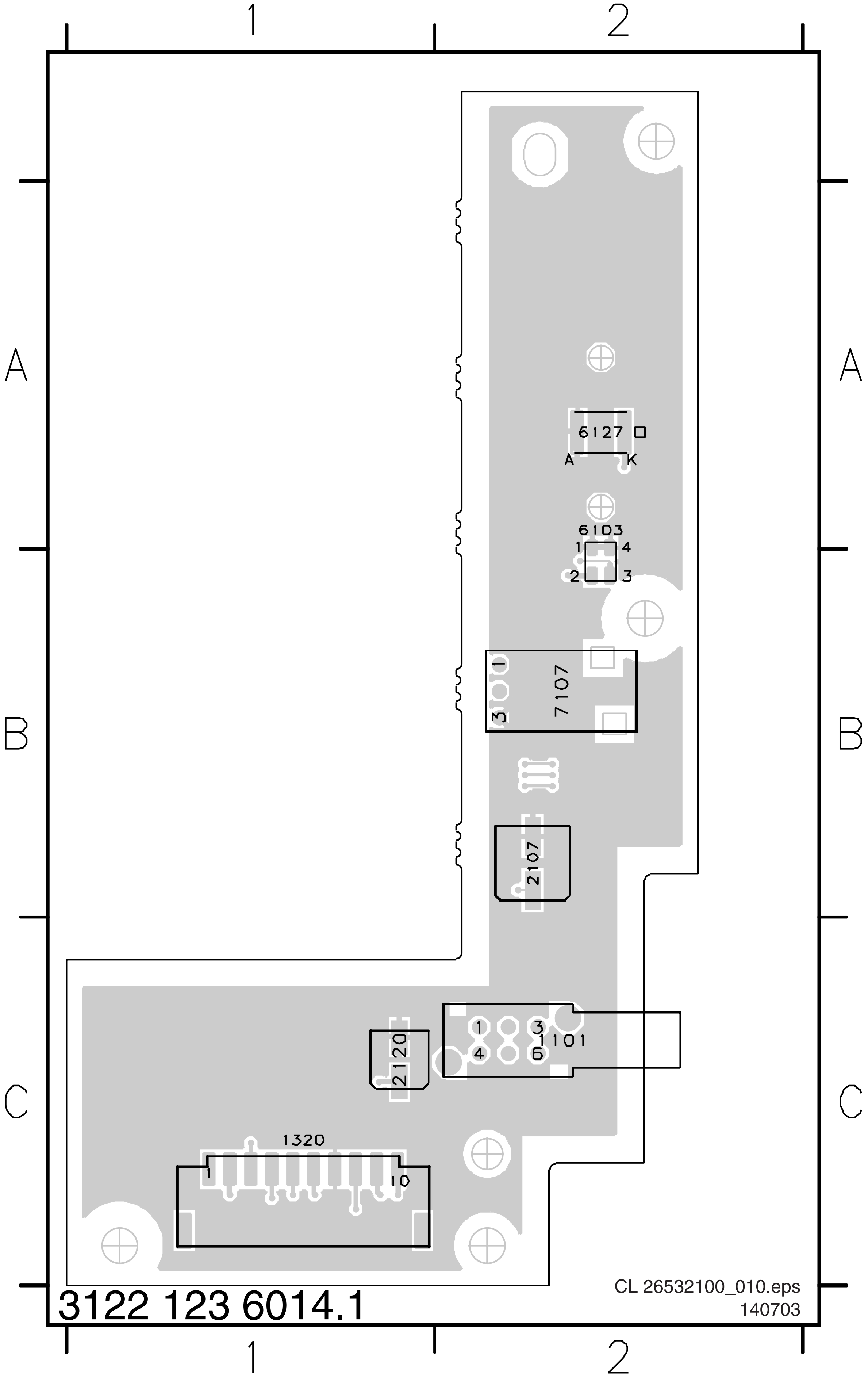


LD
LED PANEL DISPLAY
FROM 0320
SC8
CONTROL FUNCTIONS OR 1320
EMC
EMC FILTER PANEL
1320
PH-S
GREEN_LED
RED_LED
RC_IN
LIGHT_SENSOR_IN
+5V_STBY_SW
+9V_STBY_SW
+9V_STBY
F101
F102
F103
F104
F105
F106
F107
F108
F109
F112
5100
100MHZ
+8V6
+5V_STBY_SW
3101 150R
I102
6101 BZX384-C3V9
I103
3102 100K
7103 BC857BW
7105 BC857BW
3104 100K
I106
F110
F111
3103 1K0
3105 1K0
6105 BZX384-C3V9
I104
I105
I107
6103-A TLMV3100
6103-B TLMV3100
3106 150R
GREEN
RED
3109 100R
3108 10K
3107 470R
I109
I111
2107 100u 16V
7107 TSOP2136
VS
OUT
GND
CTRL CIRCUIT
INP
DEM
BAND PASS
AGC
PIN
2120 10u 35V
7120-B LM358D
7120-A LM358D
I127
3120 4K7
3121 4K7
3122 1K0
I120
3123 10K
I123
3124 1K0
I125
3126 470K
I126
2126 220n
3125 3K3
6127 TEMD5000
3127 470K
1101 SPPJ3
ON/OFF SWITCH
A B C D E
1 2 3 4 5 6 7 8 9 1

3122 123 6014.1

CL 26532100_009.eps
140703

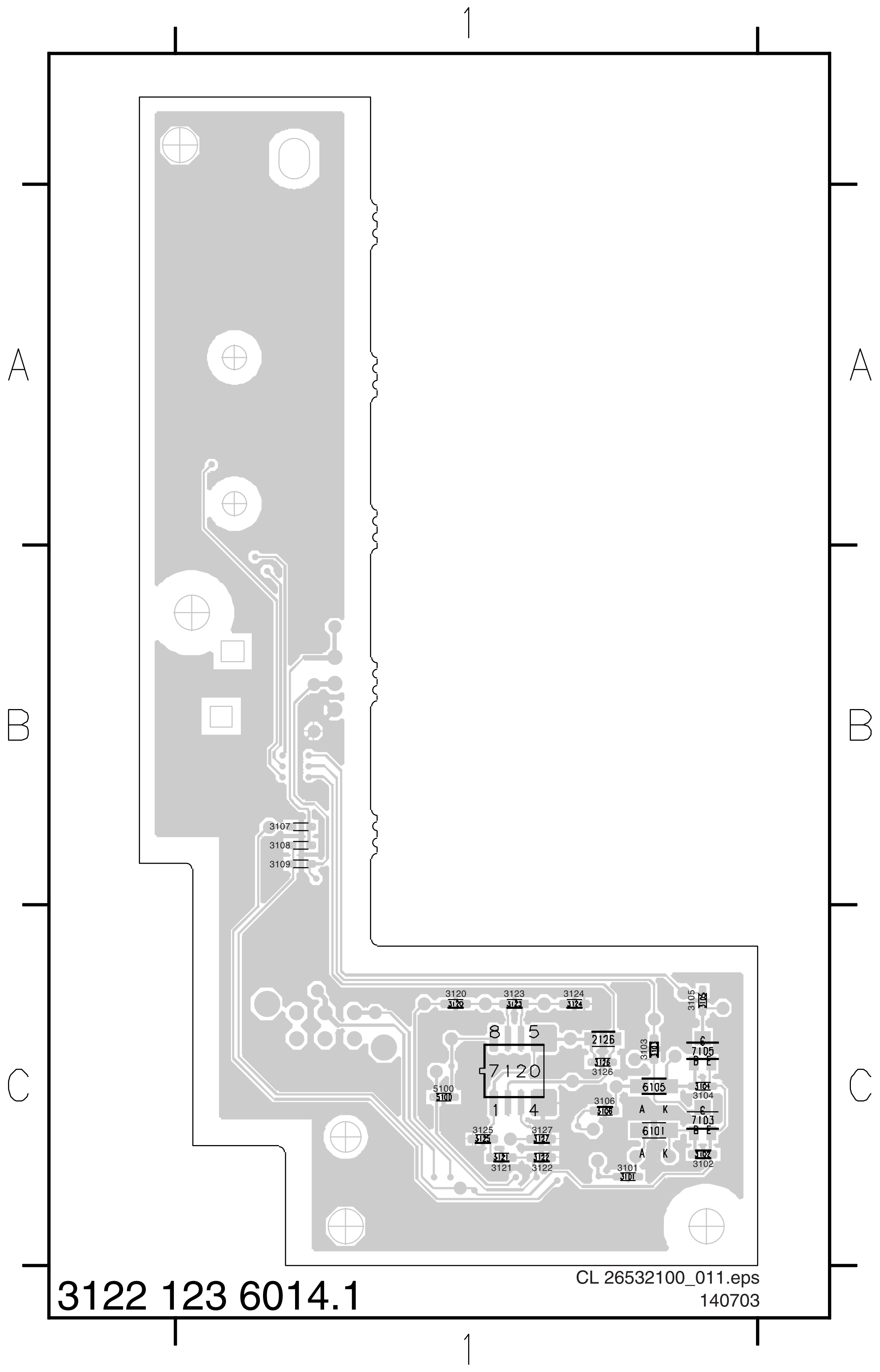
Layout LED Panel Display (for Speakerless Sets) (Top Side)


1
2
A
B
C
6127
A
K
6103
1
4
2
3
1
7107
3
2107
2120
1
3
1101
4
6
1320
1
10
3122 123 6014.1

CL 26532100_010.eps
140703

1101	C 2
1320	C1
2107	B2
2120	C1
6103	A2
6127	A2
7107	B2

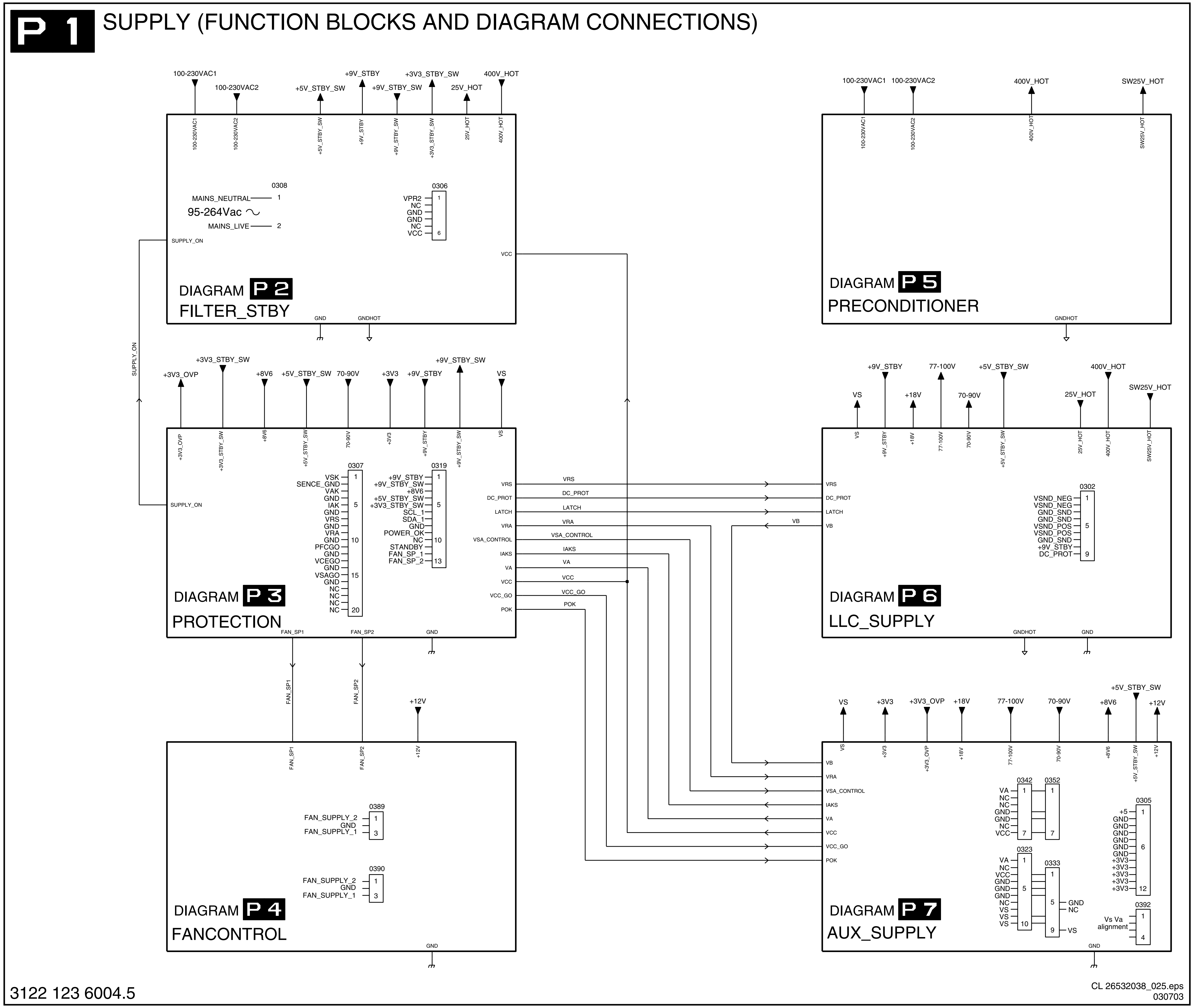
Layout LED Panel Display (for Speakerless Sets) (Bottom Side)


1
A
B
C
3107
3108
3109
3120
3123
3124
3105
2126
8
5
7120
1
4
3126
3103
7105
6105
3104
5100
3106
A
K
6101
7103
3125
3127
3121
3122
3101
3102
3122 123 6014.1

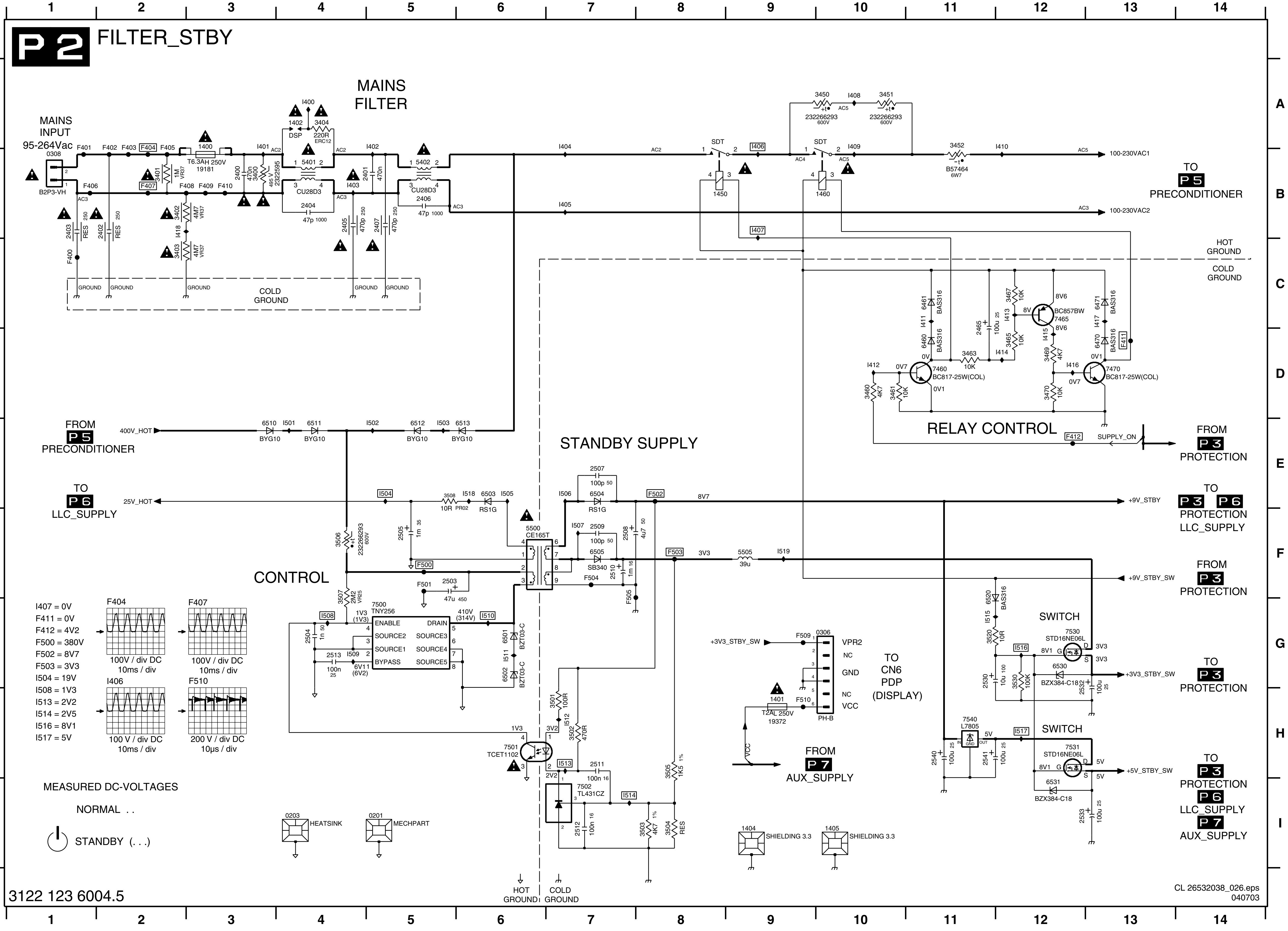
CL 26532100_011.eps
140703

2126	C1
3101	C1
3102	C1
3103	C1
3104	C1
3105	C1
3106	C1
3107	B1
3108	B1
3109	B1
3120	C1
3121	C1
3122	C1
3123	C1
3124	C1
3125	C1
3126	C1
3127	C1
5100	C1
6101	C1
6105	C1
7103	C1
7105	C1
7120	C1

Power Supply Panel (FM23 AC): Function Blocks and Connection Diagram


P 1
SUPPLY (FUNCTION BLOCKS AND DIAGRAM CONNECTIONS)
100-230VAC1
100-230VAC2
+5V_STBY_SW
+9V_STBY
+9V_STBY_SW
+3V3_STBY_SW
25V_HOT
400V_HOT
0308
MAINS_NEUTRAL 1
95-264Vac
MAINS_LIVE 2
SUPPLY_ON
0306
VPR2 1
NC
GND
GND
NC
VCC 6
VCC
DIAGRAM P 2
FILTER_STBY
GND
GNDHOT
SW25V_HOT
DIAGRAM P 5
PRECONDITIONER
GNDHOT
SUPPLY_ON
+3V3_OVP
+3V3_STBY_SW
+8V6
+5V_STBY_SW
70-90V
+3V3
+9V_STBY
+9V_STBY_SW
VS
0307
VSK 1
SENCE_GND
VAK
GND
IAK 5
GND
VRS
GND
VRA
GND 10
PFCGO
GND
VCEGO
GND
VSAGO 15
GND
NC
NC
NC
NC 20
0319
+9V_STBY 1
+9V_STBY_SW
+8V6
+5V_STBY_SW
+3V3_STBY_SW 5
SCL_1
SDA_1
GND
POWER_OK
NC 10
STANDBY
FAN_SP_1
FAN_SP_2 13
VRS
DC_PROT
LATCH
VRA
VSA_CONTROL
IAKS
VA
VCC
VCC_GO
POK
VB
DIAGRAM P 3
PROTECTION
FAN_SP1
FAN_SP2
GND
+9V_STBY
77-100V
+5V_STBY_SW
400V_HOT
VS
+18V
70-90V
25V_HOT
SW25V_HOT
0302
VSND_NEG 1
VSND_NEG
GND_SND
GND_SND
VSND_POS 5
VSND_POS
GND_SND
+9V_STBY
DC_PROT 9
DIAGRAM P 6
LLC_SUPPLY
GNDHOT
GND
+12V
0389
FAN_SUPPLY_2 1
GND
FAN_SUPPLY_1 3
0390
FAN_SUPPLY_2 1
GND
FAN_SUPPLY_1 3
DIAGRAM P 4
FANCONTROL
GND
VS
+3V3
+3V3_OVP
+18V
77-100V
70-90V
+8V6
+5V_STBY_SW
+12V
0342
0352
VA 1 1
NC
NC
GND
GND
NC
VCC 7 7
0323
VA 1
NC
VCC
GND
GND 5
GND
NC
VS
VS
VS 10
0333
1
5 GND
NC
9 VS
0305
+5 1
GND
GND
GND
GND
GND 6
GND
+3V3
+3V3
+3V3
+3V3
+3V3 12
0392
Vs Va alignment 1
4
DIAGRAM P 7
AUX_SUPPLY
GND
3122 123 6004.5
CL 26532038_025.eps
030703

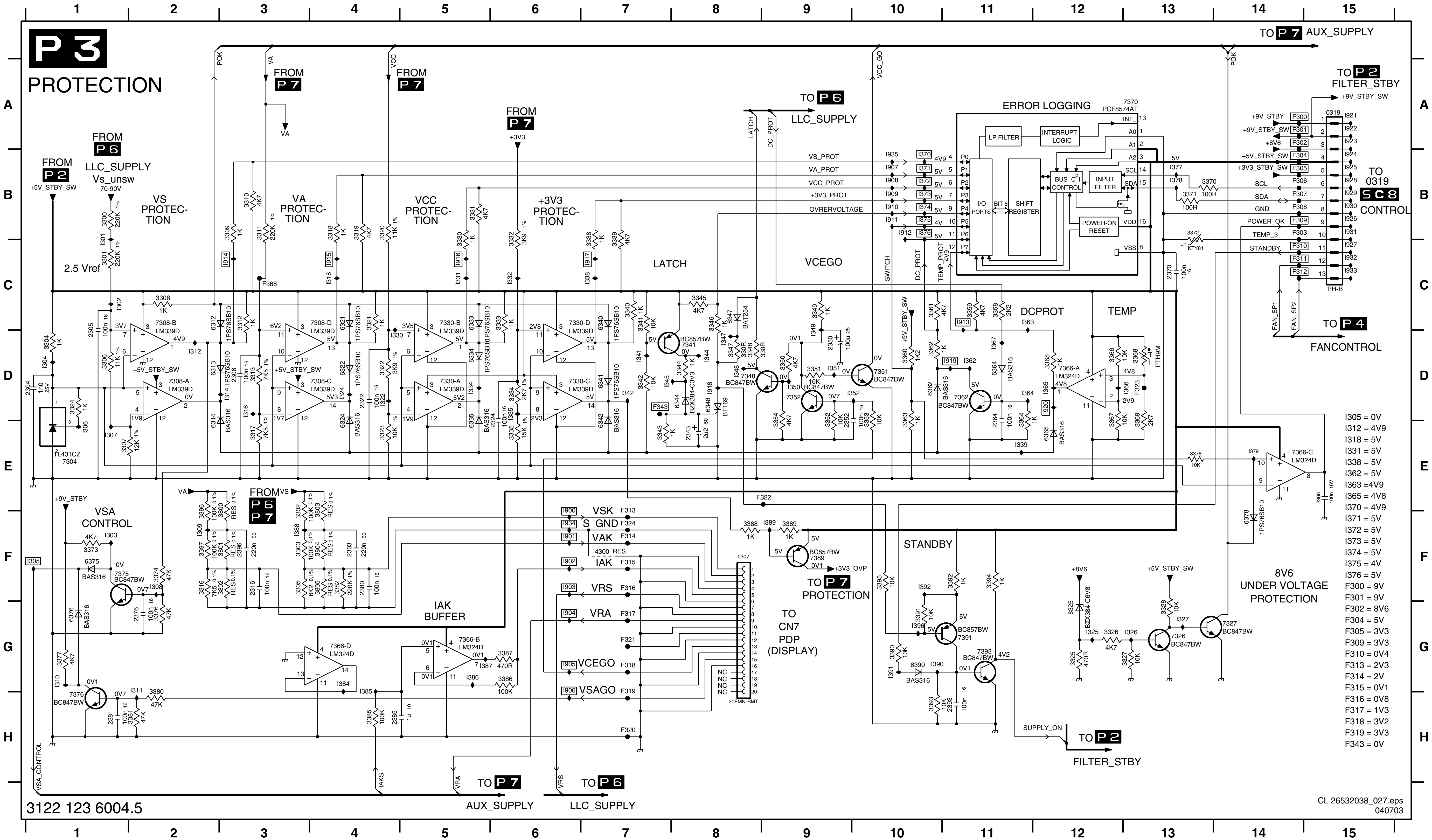
Power Supply Panel (FM23 AC): Mains Filter and Standby Supply


P 2 FILTER_STBY
MAINS FILTER
MAINS INPUT 95-264Vac
0308 B2P3-VH
F401 F402 F403 F404 F405 F406 F407 F408 F409 F410 F400
1400 T6.3AH 250V 19181
1402 DSP
I400 I401 I402 I403 I404 I405 I406 I407 I408 I409 I410
3404 220R ERC12
5401 CU28D3
5402 CU28D3
2400 470n
3400 495 V 2322595
2401 470n
2404 47p 1000
2406 47p 1000
2405 470p 250
2407 470p 250
2403 RES 250
2402 RES 250
3401 1M VR37
3402 4M7 VR37
3403 4M7 VR37
I418
AC2 AC3 AC4 AC5
COLD GROUND
GROUND
SDT 1450
SDT 1460
3450 232266293 600V
3451 232266293 600V
3452 B57464 6W7
100-230VAC1
100-230VAC2
TO P 5 PRECONDITIONER
HOT GROUND
COLD GROUND
6461 BAS316
6460 BAS316
6471 BAS316
6470 BAS316
I411 I412 I413 I414 I415 I416 I417
2465 100u 25
3467 10K
3465 10K
3463 10K
3469 4K7
3470 10K
3460 4K7
3461 10K
7465 BC857BW
7460 BC817-25W(COL)
7470 BC817-25W(COL)
8V6 8V 0V 0V7 0V1
F411
RELAY CONTROL
F412 SUPPLY_ON
FROM P 3 PROTECTION
FROM P 5 PRECONDITIONER
400V_HOT
6510 BYG10
6511 BYG10
6512 BYG10
6513 BYG10
I501 I502 I503
STANDBY SUPPLY
TO P 6 LLC_SUPPLY
25V_HOT
I504 I505 I506 I507 I508 I509 I510 I511 I512 I513 I514 I518 I519
3508 10R PR02
6503 RS1G
2507 100p 50
6504 RS1G
F502 8V7
+9V_STBY
TO P 3 P 6 PROTECTION LLC_SUPPLY
2505 1m 35
3506 232266293 600V
5500 CE165T
2509 100p 50
6505 SB340
2508 4u7 50
2510 1m 16
F503 3V3
5505 39u
F500 F501 F504 F505
2503 47u 450
CONTROL
+9V_STBY_SW
FROM P 3 PROTECTION
3507 2M2 VR25
7500 TNY256
ENABLE DRAIN SOURCE2 SOURCE3 SOURCE1 SOURCE4 BYPASS SOURCE5
1V3 (1V3)
410V (314V)
6V11 (6V2)
2504 1n 50
2513 100n 25
6501 BZT03-C
6502 BZT03-C
I407 = 0V
F411 = 0V
F412 = 4V2
F500 = 380V
F502 = 8V7
F503 = 3V3
I504 = 19V
I508 = 1V3
I513 = 2V2
I514 = 2V5
I516 = 8V1
I517 = 5V
F404
100V / div DC 10ms / div
F407
100V / div DC 10ms / div
I406
100 V / div DC 10ms / div
F510
200 V / div DC 10µs / div
3501 100R
3502 470R
3V2 2V2 1V3
7501 TCET1102
2511 100n 16
7502 TL431CZ
2512 100n 16
3503 4K7 1%
3504 RES
3505 1K5 1%
+3V3_STBY_SW
F509 0306 PH-B
VPR2 NC GND NC VCC
TO CN6 PDP (DISPLAY)
1401 T2AL 250V 19372
F510
VCC
FROM P 7 AUX_SUPPLY
6520 BAS316
SWITCH
3520 10R
7530 STD16NE06L
I515 I516 I517
8V1 3V3
2530 10u 100
3530 100K
6530 BZX384-C18
2532 100u 25
+3V3_STBY_SW
TO P 3 PROTECTION
7540 L7805
2540 100u 25
2541 100u 25
5V
SWITCH
7531 STD16NE06L
6531 BZX384-C18
+5V_STBY_SW
2533 100u 25
TO P 3 PROTECTION P 6 LLC_SUPPLY P 7 AUX_SUPPLY
MEASURED DC-VOLTAGES
NORMAL . .
STANDBY (. . .)
0203 HEATSINK
0201 MECHPART
1404 SHIELDING 3.3
1405 SHIELDING 3.3
HOT GROUND
COLD GROUND
3122 123 6004.5
CL 26532038_026.eps 040703

0201	I5
0203	I4
0306	G10
0308	B1
1400	B3
1401	H9
1402	A4
1404	I9
1405	I10
1450	B8
1460	B10
2400	B3
2401	B5
2402	B2
2403	B1
2404	B4
2405	B4
2406	B5
2407	B5
2465	C11
2503	F5
2504	G4
2505	F5
2507	E7
2508	F7
2509	F7
2510	F7
2511	H7
2512	I7
2513	G4
2530	G11
2532	G12
2533	I12
2540	H11
2541	H11
3400	B3
3401	B2
3402	B2
3403	C2
3404	A4
3450	A10
3451	A10
3452	A11
3460	D10
3461	D10
3463	D11
3465	D12
3467	C12
3469	D12
3470	D12
3501	H7
3502	H7
3503	I8
3504	I8
3505	H8
3506	F4
3507	F4
3508	E5
3520	G11
3530	G12
5401	B4
5402	B5
5500	F6
5505	F9
6460	D11
6461	C11
6470	D13
6471	C13
6501	G6
6502	G6
6503	E6
6504	E7
6505	F7
6510	E3
6511	E4
6512	E5
6513	E6
6520	F11
6530	G12
6531	I12
7460	D11
7465	C12
7470	D13
7500	G5
7501	H6
7502	I7
7530	G12
7531	H12
7540	H11
F400	C1
F401	B1
F402	B2
F403	B2
F404	B2
F405	B2
F406	B1
F407	B2
F408	B3
F409	B3
F410	B3
F411	D13
F412	E12
F500	F5
F501	F5
F502	E8
F503	F8
F504	F7
F505	F7
F509	G9
F510	H9
I400	A4
I401	A3
I402	A5
I403	B4
I404	A7
I405	B7
I406	A9
I407	B9
I408	A10
I409	A10
I410	A12
I411	C11
I412	D10
I413	C12
I414	D12
I415	D12
I416	D12
I417	C13
I418	B2
I501	E4
I502	E5
I503	E5
I504	E5
I505	E6
I506	E7
I507	F7
I508	G4
I509	G4
I510	G6
I511	G6
I512	H7
I513	H7
I514	I7
I515	G11
I516	G12
I517	H12
I518	E6
I519	F9

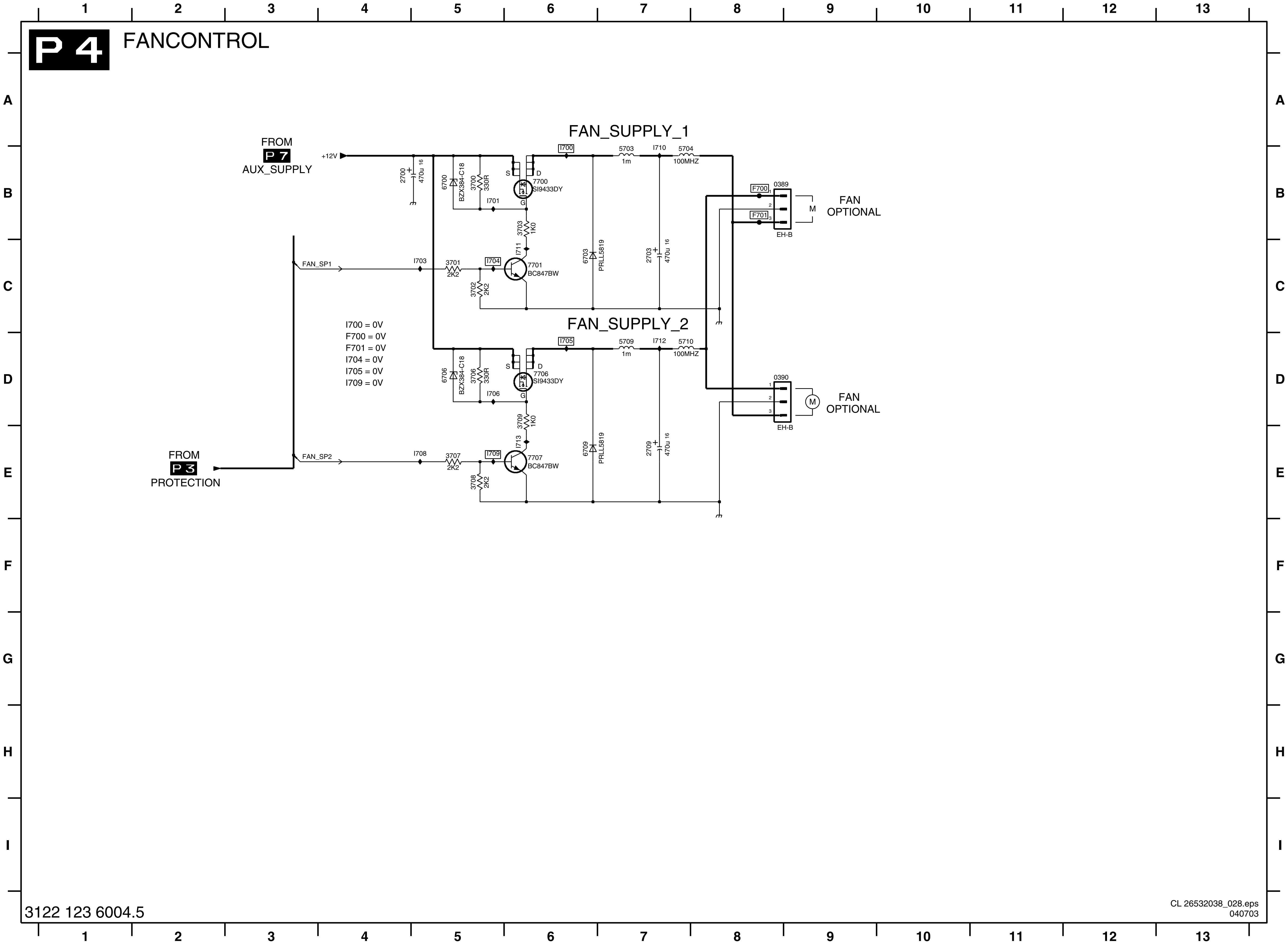
Power Supply Panel (FM23 AC): Protections

0307 F8	2350 D9	2396 F3	3309 B3	3321 C4	3332 B6	3344 D8	3354 D9	3367 D12	3378 E13	3391 G10	3803 E4	6325 G12	6362 D10	7308-C D4	7351 D10	7389 F9	F307 B14	F317 G7	I301 B1	I311 G2	I330 D4	I345 D7	I365 D12	I377 B13	I391 G10	I907 B10	I917 C7	I927 C15
0319 A15	2352 D9	3300 B1	3310 B3	3322 D4	3333 C6	3345 C8	3358 C11	3368 D13	3380 H2	3392 F11	3804 F4	6333 C5	6364 D11	7308-D C4	7352 D9	7391 G11	F308 B14	F318 G7	I302 C1	I312 D2	I331 C5	I347 D8	I366 D13	I378 B13	I392 F10	I908 B10	I918 D8	I928 B15
2303 F4	2364 D11	3301 C1	3311 B3	3323 E4	3334 D6	3346 C8	3359 C11	3369 D13	3381 H2	3393 H10	3805 F4	6334 D5	6365 E12	7326 G13	7362 D11	7393 G11	F309 B14	F319 H7	I303 F1	I314 D3	I332 C6	I348 D8	I367 D11	I379 E14	I396 G10	I909 B10	I919 D11	I929 B15
2304 D1	2366 E15	3302 F3	3312 C3	3324 D1	3335 E6	3347 D8	3360 D10	3370 B13	3382 F4	3394 F11	4300 F7	6335 E5	6375 F1	7327 G14	7366-A D12	F300 A14	F310 C14	F320 H7	I304 D1	I316 D3	I334 D5	I349 C9	I370 B10	I384 G4	I900 E6	I910 B10	I920 D12	I930 B15
2305 C1	2370 C13	3303 F3	3313 D3	3325 G12	3338 B7	3348 D8	3361 C10	3371 B13	3385 H4	3395 F10	6312 C2	6340 C7	6376 G1	7330-A D5	7366-B G5	F301 A14	F311 C14	F321 G7	I305 F1	I318 C4	I335 D6	I350 D9	I371 B10	I385 G4	I901 F6	I911 B10	I921 A15	I931 B15
2306 D3	2376 G2	3304 D1	3316 F2	3326 G12	3339 B7	3349 C9	3362 D10	3372 B13	3386 G6	3396 F2	6313 D2	6341 D7	6378 F14	7330-B C5	7366-C E14	F302 A14	F312 C14	F322 E9	I306 E1	I322 D4	I338 C7	I351 D9	I372 B10	I386 G5	I902 F6	I912 B10	I922 A15	I932 C15
2316 F3	2380 F4	3305 F3	3317 E3	3327 G13	3340 C7	3350 D9	3363 D10	3373 F1	3387 G6	3397 F2	6314 E2	6342 E7	6390 G10	7330-C D6	7366-D G4	F303 B14	F313 F7	F323 D13	I307 E1	I324 D4	I339 E11	I352 D10	I373 B10	I387 G5	I903 F6	I913 C11	I923 A15	I933 C15
2322 D4	2381 H1	3306 D1	3318 B4	3328 G13	3341 C7	3351 D9	3364 D11	3374 F2	3388 F8	3800 E3	6321 C4	6344 D8	7304 E1	7330-D C6	7370 A13	F304 B14	F314 F7	F324 F7	I308 F2	I325 G12	I341 D7	I362 D11	I374 B10	I388 F3	I904 G6	I914 C3	I924 B15	I934 F6
2324 D6	2385 H4	3307 E1	3319 B4	3330 B5	3342 D7	3352 D9	3365 D12	3376 G2	3389 F9	3801 F3	6322 D4	6347 C8	7308-A D2	7341 D8	7375 F2	F305 B14	F315 F7	F343 D7	I309 F2	I326 G13	I342 D7	I363 C11	I375 B10	I389 F9	I905 G6	I915 C4	I925 B15	I935 B10
2343 E8	2393 H11	3308 C2	3320 B4	3331 B5	3343 E7	3353 D10	3366 D12	3377 G1	3390 G10	3802 F3	6324 E4	6348 D8	7308-B C2	7348 D8	7376 H1	F306 B14	F316 F7	F368 C3	I310 G1	I327 G13	I344 D8	I364 D11	I376 B10	I390 G10	I906 G6	I916 C5	I926 B15	



P 3
PROTECTION
TO P 7 AUX_SUPPLY
FROM P 7
VA
FROM P 7
VCC
POK
VCC_GO
FROM P 7
+3V3
TO P 6
LLC_SUPPLY
LATCH
DC_PROT
ERROR LOGGING
7370
PCF8574AT
LP FILTER
INTERRUPT LOGIC
I/O PORTS
BIT 8
SHIFT REGISTER
BUS CONTROL
INPUT FILTER
POWER-ON RESET
TO P 2
FILTER_STBY
+9V_STBY_SW
FROM P 6
LLC_SUPPLY
Vs_unsw
70-90V
FROM P 2
+5V_STBY_SW
VS PROTEC-TION
VA PROTEC-TION
VCC PROTEC-TION
+3V3 PROTEC-TION
2.5 Vref
VS_PROT
VA_PROT
VCC_PROT
+3V3_PROT
OVREVOLTAGE
LATCH
VCEGO
SWITCH
DC_PROT
TEMP_PROT
DCPROT
TEMP
+9V_STBY
+9V_STBY_SW
+8V6
+5V_STBY_SW
+3V3_STBY_SW
SCL
SDA
GND
POWER_OK
TEMP_3
STANDBY
TO 0319
5 C 8
CONTROL
FAN_SP1
FAN_SP2
TO P 4
FANCONTROL
7308-B LM339D
7308-A LM339D
7308-D LM339D
7308-C LM339D
7330-B LM339D
7330-A LM339D
7330-D LM339D
7330-C LM339D
7366-A LM324D
7366-B LM324D
7366-C LM324D
7366-D LM324D
TL431CZ 7304
BC857BW 7341
BC847BW 7348
BC847BW 7352
BC847BW 7351
BC847BW 7362
BC857BW 7389
BC857BW 7391
BC847BW 7393
BC847BW 7326
BC847BW 7327
BC847BW 7375
BC847BW 7376
PTH9M
KTY81
BAT254
BT169
BZX384-C3V3
BZX384-C6V8
BAS316
1PS76SB10
VSA CONTROL
FROM P 6 P 7
VSK
S_GND
VAK
IAK
VRS
VRA
VCEGO
VSAGO
4300 RES
0307
20FMN-BMT
NC
TO CN7 PDP (DISPLAY)
TO P 7 PROTECTION
+3V3_OVP
IAK BUFFER
STANDBY
SUPPLY_ON
TO P 2
FILTER_STBY
8V6 UNDER VOLTAGE PROTECTION
VSA_CONTROL
IAKS
VRA
TO P 7
AUX_SUPPLY
VRS
TO P 6
LLC_SUPPLY
3122 123 6004.5
CL 26532038_027.eps
040703
I305 = 0V
I312 = 4V9
I318 = 5V
I331 = 5V
I338 = 5V
I362 = 5V
I363 =4V9
I365 = 4V8
I370 = 4V9
I371 = 5V
I372 = 5V
I373 = 5V
I374 = 5V
I375 = 4V
I376 = 5V
F300 = 9V
F301 = 9V
F302 = 8V6
F304 = 5V
F305 = 3V3
F309 = 3V3
F310 = 0V4
F313 = 2V3
F314 = 2V
F315 = 0V1
F316 = 0V8
F317 = 1V3
F318 = 3V2
F319 = 3V3
F343 = 0V

Power Supply Panel (FM23 AC): Fan Control


P 4
FANCONTROL
FROM
P 7
AUX_SUPPLY
+12V
FAN_SUPPLY_1
I700
5703
1m
I710
5704
100MHZ
2700
470u 16
6700
BZX384-C18
3700
330R
S
D
7700
SI9433DY
G
I701
3703
1K0
I711
F700
0389
F701
M
FAN
OPTIONAL
EH-B
FAN_SP1
I703
3701
2K2
I704
7701
BC847BW
3702
2K2
6703
PRLL5819
2703
470u 16
I700 = 0V
F700 = 0V
F701 = 0V
I704 = 0V
I705 = 0V
I709 = 0V
FAN_SUPPLY_2
I705
5709
1m
I712
5710
100MHZ
6706
BZX384-C18
3706
330R
7706
SI9433DY
I706
3709
1K0
I713
0390
FAN
OPTIONAL
EH-B
FROM
P 3
PROTECTION
FAN_SP2
I708
3707
2K2
I709
7707
BC847BW
3708
2K2
6709
PRLL5819
2709
470u 16
3122 123 6004.5
CL 26532038_028.eps
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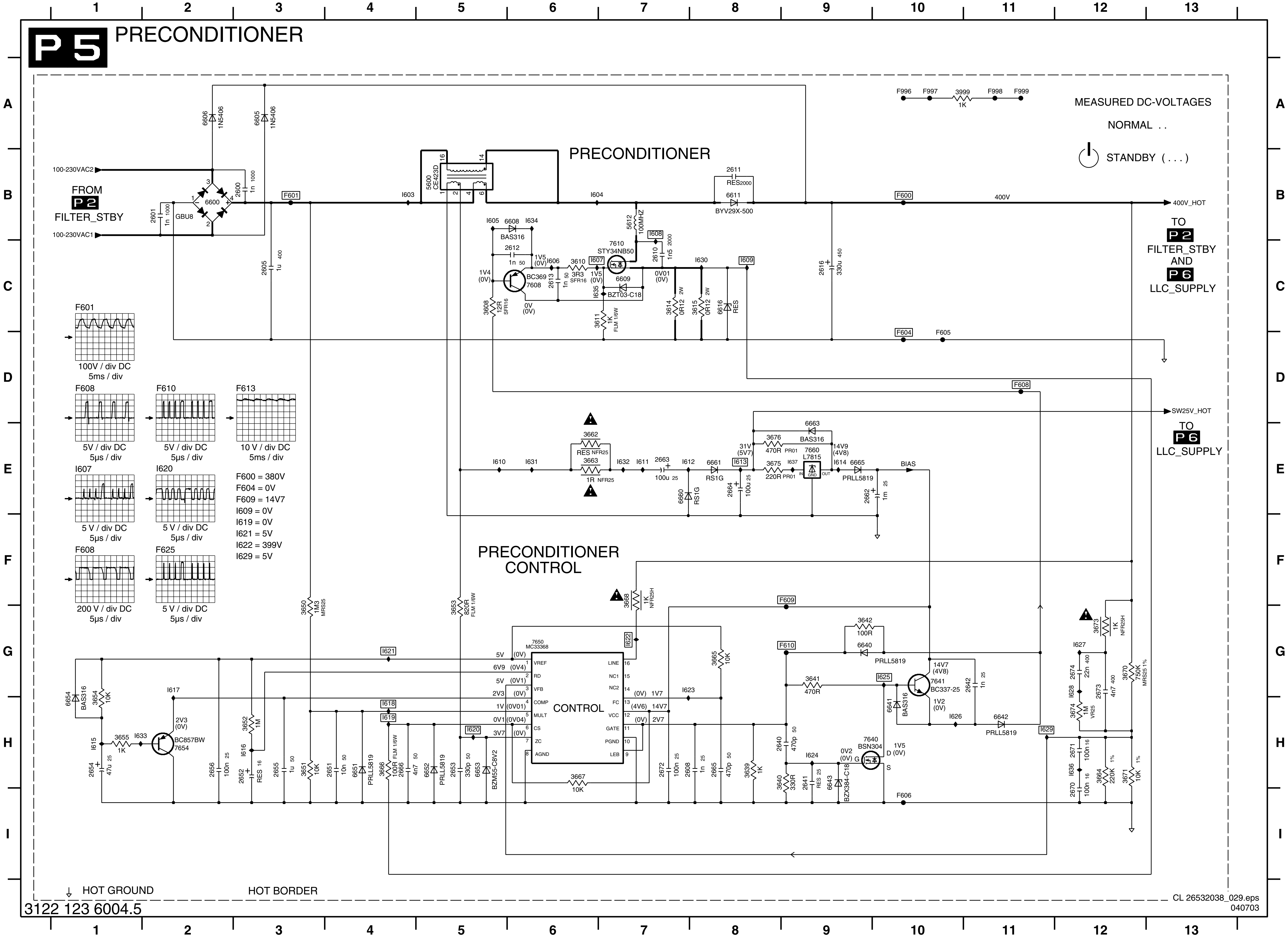
0389	B8
0390	D8
2700	B4
2703	C7
2709	E7
3700	B5
3701	C5
3702	C5
3703	B6
3706	D5
3707	E5
3708	E5
3709	D6
5703	B7
5704	B7
5709	D7
5710	D7
6700	B5
6703	C6
6706	D5
6709	E6
7700	B6
7701	C6
7706	D6
7707	E6
F700	B8
F701	B8
I700	B6
I701	B5
I703	C5
I704	C5
I705	D6
I706	D5
I708	E5
I709	E5
I710	B7
I711	C6
I712	D7
I713	E6

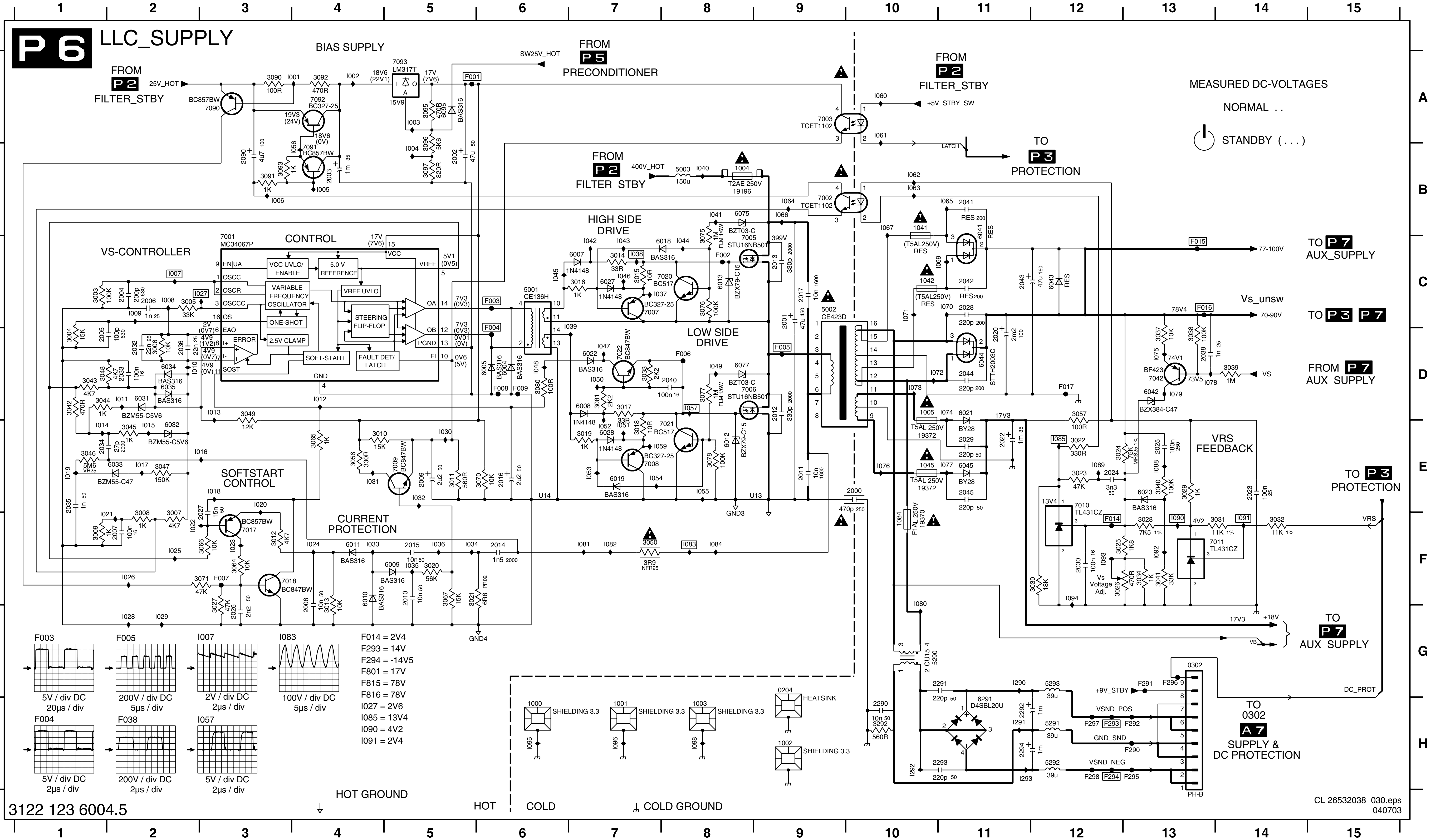
Power Supply Panel (FM23 AC): Pre-Conditioner


P5
PRECONDITIONER
PRECONDITIONER
PRECONDITIONER CONTROL
CONTROL
MEASURED DC-VOLTAGES
NORMAL ..
STANDBY (. . .)
100-230VAC2
100-230VAC1
FROM P2 FILTER_STBY
TO P2 FILTER_STBY AND P6 LLC_SUPPLY
400V_HOT
400V
SW25V_HOT
TO P6 LLC_SUPPLY
BIAS
F601 100V / div DC 5ms / div
F608 5V / div DC 5µs / div
F610 5V / div DC 5µs / div
F613 10 V / div DC 5ms / div
I607 5 V / div DC 5µs / div
I620 5 V / div DC 5µs / div
F608 200 V / div DC 5µs / div
F625 5 V / div DC 5µs / div
F600 = 380V
F604 = 0V
F609 = 14V7
I609 = 0V
I619 = 0V
I621 = 5V
I622 = 399V
I629 = 5V
6600 GBU8
5600 CE423D
5612 100MHZ
6611 BYV29X-500
7610 STY34NB50
7608 BC369
6609 BZT03-C18
7650 MC33368
7660 L7815
7641 BC337-25
7640 BSN304
7654 BC857BW
HOT GROUND
HOT BORDER
3122 123 6004.5
CL 26532038_029.eps
040703

2600	B3
2601	B2
2605	C3
2608	H8
2610	C7
2611	B8
2612	C6
2613	C6
2616	C9
2640	H9
2641	H9
2642	G11
2651	H4
2652	H3
2653	H5
2654	H1
2655	H3
2656	H2
2662	E9
2663	E7
2664	E8
2665	H8
2666	H4
2670	I12
2671	H12
2672	H7
2673	G12
2674	G12
3608	C5
3610	C6
3611	C7
3614	C7
3615	C8
3639	H8
3640	H9
3641	G9
3642	G9
3650	G3
3651	H3
3652	H3
3653	G5
3654	H1
3655	H1
3662	E6
3663	E6
3664	H12
3665	G8
3666	H4
3667	H6
3668	F7
3670	G12
3671	H12
3673	G12
3674	H12
3675	E8
3676	E8
3999	A10
5600	B5
5612	B7
6600	B2
6605	A3
6606	A2
6608	B6
6609	C7
6611	B8
6616	C8
6640	G9
6641	H10
6642	H11
6643	H9
6651	H4
6652	H5
6653	H5
6654	H1
6660	E7
6661	E8
6663	E9
6665	E9
7608	C6
7610	C7
7640	H9
7641	G10
7650	G6
7654	H2
7660	E9
F600	B10
F601	B3
F604	D10
F605	D10
F606	I10
F608	D11
F609	F9
F610	G9
F996	A10
F997	A10
F998	A11
F999	A11
I603	B4
I604	B6
I605	B5
I606	C6
I607	C6
I608	B7
I609	C8
I610	E5
I611	E7
I612	E7
I613	E8
I614	E9
I615	H1
I616	H3
I617	G2
I618	H4
I619	H4
I620	H5
I621	G4
I622	G7
I623	G7
I624	H9
I625	G10
I626	H10
I627	G12
I628	G12
I629	H11
I630	C8
I631	E6
I632	E7
I633	H1
I634	B6
I635	C6
I636	H12
I637	E9

Power Supply Panel (FM23 AC): LLC Supply

U13	E9
U14	E6
0204	G9
0302	G13
1000	H6
1001	H7
1002	H9
1003	H8
1004	B8
1005	D10
1041	B10
1042	C10
1045	E10
1084	F10
2000	E10
2001	C9
2002	B5
2003	B4
2004	C2
2005	D1
2006	C2
2007	F2
2008	G4
2009	E5
2010	F5
2011	E9
2012	D9
2013	C9
2014	F6
2015	F5
2016	E6
2017	C9
2020	D11
2022	E11
2023	E14
2024	E12
2025	E13
2026	G3
2027	F3
2028	C11
2029	E11
2030	F12
2032	D2
2033	D2
2034	E1
2035	E1
2036	D2
2038	D13
2040	D8
2041	B11
2042	C11
2043	C11
2044	D11
2045	E11
2090	B3
2290	H10
2291	G11
2292	H11
2293	H11
2294	H11
3003	C1
3004	D1
3005	C2
3006	D2
3007	F2
3008	F2
3009	F1
3010	E4
3011	E5
3012	F3
3013	G4
3014	C7
3015	C7
3016	C7
3017	D7
3018	E7
3019	E7
3020	F5
3021	F5
3022	E12
3023	E12
3024	E12
3025	F12
3026	F12
3027	G3
3028	F13
3029	E13
3030	F12
3031	F14
3032	F14
3033	D7
3034	F13
3037	D13
3038	D13
3039	D14
3040	E13
3041	F13
3042	D1
3043	D1
3044	D1
3045	E2
3046	E1
3047	E2
3048	D1
3049	D3
3050	F7
3056	E4
3057	D12
3064	F3
3065	E4
3066	F3
3067	F5
3070	E6
3071	F3
3075	C8
3076	C8
3077	D8
3078	E8
3080	D6
3081	D7
3090	A3
3091	B3
3092	A4
3093	B3
3095	A5
3096	B5
3097	B5
3292	H10
5001	C6
5002	C9
5003	B8
5290	G10
5291	H12
5292	H12
5293	G12
6004	D6
6005	D6
6007	C7
6008	D7
6009	F5
6010	F4
6011	F4
6012	E8
6013	C8
6018	C8
6019	E7
6021	D11
6022	D7
6023	E13
6027	C7
6028	E7
6031	D2
6032	E2
6033	E2
6034	D2
6035	D2
6041	C11
6042	D13
6043	C12
6044	D11
6045	E11
6075	B8
6077	D8
6095	A5
6291	H11
7001	C3
7002	B9
7003	A9
7005	C8
7006	D8
7007	C7
7008	E7
7009	E5
7010	E12
7011	F13
7017	F3
7018	F3
7020	C8
7021	E8
7022	D7
7042	D13
7090	A3
7091	B4
7092	A4
7093	A5
F001	A5
F002	C8
F003	C6
F004	D6
F005	D9
F006	D8
F007	F3
F008	D6
F009	D6
F014	F12
F015	C13
F016	C13
F017	D12
F290	H13
F291	G13
F292	H13
F293	H12
F294	H12
F295	H13
F296	G13
F297	H12
F298	H12
I001	A4
I002	A4
I003	A5
I004	B5
I005	B4
I006	B3
I007	C2
I008	C2
I009	C2
I010	D2
I011	D2
I012	D4
I013	D3
I014	E1
I015	E2
I016	E3
I017	E2
I018	E3
I019	E1
I020	E3
I021	F1
I022	F2
I023	F3
I024	F4
I025	F2
I026	F2
I027	C3
I028	G2
I029	G2
I030	E5
I031	E4
I032	E5
I033	F4
I034	F5
I035	F5
I036	F5
I037	C7
I038	C7
I039	C7
I040	B8
I041	B8
I042	C7
I043	C7
I044	C8
I045	C6
I046	C7
I047	D7
I048	D6
I049	D8
I050	D7
I051	E7
I052	E7
I053	E7
I054	E7
I055	E8
I056	B4
I057	D8
I059	E7
I060	A10
I061	A10
I062	B10
I063	B10
I064	B9
I065	B11
I066	B9
I067	B10
I069	C11
I070	C11
I071	C10
I072	D10
I073	D10
I074	D11
I075	D13
I076	E10
I077	E11
I078	D13
I079	D13
I080	F10
I081	F7
I082	F7
I083	F8
I084	F8
I085	E12
I088	E13
I089	E12
I090	F13
I091	F14
I092	F13
I093	F12
I094	F12
I095	H6
I096	H7
I098	H8
I290	G11
I291	H11
I292	H10
I293	H11


P 6 LLC_SUPPLY
BIAS SUPPLY
FROM P 2 FILTER_STBY
25V_HOT
FROM P 5 PRECONDITIONER
SW25V_HOT
FROM P 2 FILTER_STBY
400V_HOT
FROM P 2 FILTER_STBY
+5V_STBY_SW
LATCH
TO P 3 PROTECTION
MEASURED DC-VOLTAGES
NORMAL . .
STANDBY (. . .)
VS-CONTROLLER
CONTROL
7001 MC34067P
VCC UVLO/ ENABLE
5.0 V REFERENCE
VARIABLE FREQUENCY OSCILLATOR
ONE-SHOT
ERROR
2.5V CLAMP
SOFT-START
FAULT DET/ LATCH
STEERING FLIP-FLOP
VREF UVLO
HIGH SIDE DRIVE
LOW SIDE DRIVE
SOFTSTART CONTROL
CURRENT PROTECTION
7093 LM317T
7003 TCET1102
7002 TCET1102
5001 CE136H
5002 CE423D
7005 STU16NB50
7006 STU16NB50
TO P 7 AUX_SUPPLY
77-100V
Vs_unsw
70-90V
TO P 3 P 7
FROM P 7 AUX_SUPPLY
VS
VRS FEEDBACK
TO P 3 PROTECTION
VRS
7010 TL431CZ
7011 TL431CZ
17V3
+18V
TO P 7 AUX_SUPPLY
DC_PROT
TO 0302 A 7 SUPPLY & DC PROTECTION
+9V_STBY
VSND_POS
GND_SND
VSND_NEG
SHIELDING 3.3
HEATSINK
F003
F005
I007
I083
5V / div DC 20µs / div
200V / div DC 5µs / div
2V / div DC 2µs / div
100V / div DC 5µs / div
F004
F038
I057
5V / div DC 2µs / div
200V / div DC 2µs / div
5V / div DC 2µs / div
F014 = 2V4
F293 = 14V
F294 = -14V5
F801 = 17V
F815 = 78V
F816 = 78V
I027 = 2V6
I085 = 13V4
I090 = 4V2
I091 = 2V4
HOT GROUND
HOT
COLD
COLD GROUND
3122 123 6004.5
CL 26532038_030.eps
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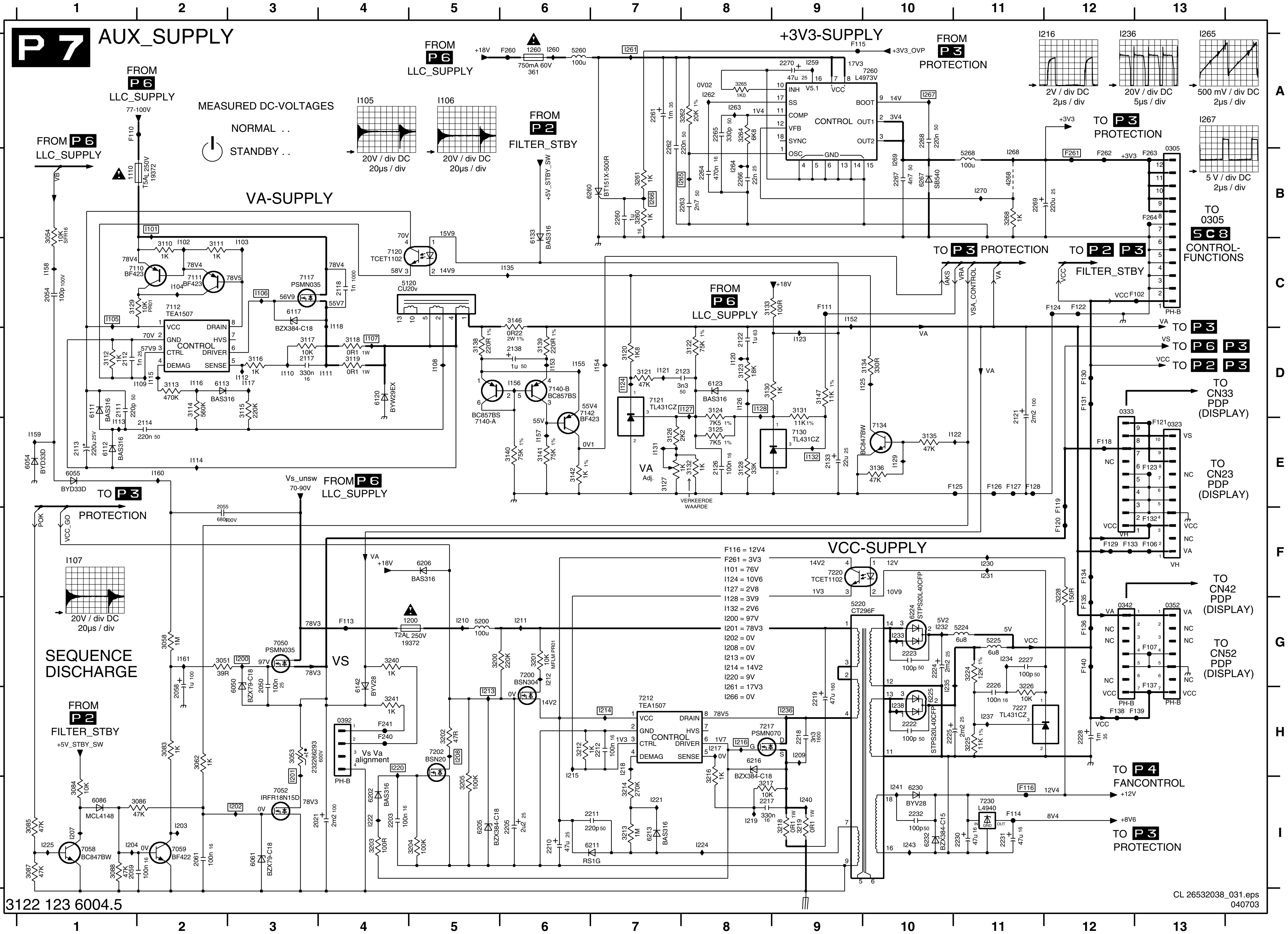
Power Supply Panel (FM23 AC): Aux Supply


P 7
AUX_SUPPLY
FROM P 6 LLC_SUPPLY
77-100V
MEASURED DC-VOLTAGES
NORMAL ..
STANDBY ..
I105
20V / div DC
20µs / div
I106
20V / div DC
20µs / div
FROM P 2 FILTER_STBY
+5V_STBY_SW
FROM P 6 LLC_SUPPLY
VA-SUPPLY
+18V
F260
1260
750mA 60V
361
5260
100u
+3V3-SUPPLY
F115
+3V3_OVP
FROM P 3 PROTECTION
7260
L4973V
INH
SS
COMP
VFB
SYNC
OSC
CONTROL
BOOT
OUT1
OUT2
GND
VCC
I216
2V / div DC
2µs / div
I236
20V / div DC
5µs / div
I265
500 mV / div DC
2µs / div
I267
5 V / div DC
2µs / div
+3V3
TO P 3 PROTECTION
TO 0305
S C 8
CONTROL-FUNCTIONS
TO P 3 PROTECTION
TO P 2 P 3 FILTER_STBY
7112
TEA1507
VCC
GND
CTRL
DEMAG
DRAIN
HVS
DRIVER
SENSE
7110 BF423
7111 BF423
7117 PSMN035
7120 TCET1102
5120 CU20v
BZX384-C18
BYW29EX
7140-A BC857BS
7140-B BC857BS
7142 BF423
FROM P 6 LLC_SUPPLY
7121 TL431CZ
7130 TL431CZ
7134 BC847BW
VA Adj.
VERKEERDE WAARDE
TO P 3
TO P 6 P 3
TO P 2 P 3
VA
VS
VCC
TO CN33 PDP (DISPLAY)
TO CN23 PDP (DISPLAY)
TO CN42 PDP (DISPLAY)
TO CN52 PDP (DISPLAY)
0333
0323
0342
0352
PH-B
VH
NC
TO P 3 PROTECTION
POK
VCC_GO
Vs_unsw 70-90V
FROM P 6 LLC_SUPPLY
I107
20V / div DC
20µs / div
SEQUENCE DISCHARGE
FROM P 2 FILTER_STBY
+5V_STBY_SW
7050 PSMN035
VS
7052 IRFR18N15D
7058 BC847BW
7059 BF422
MCL4148
1200 T2AL 250V 19372
0392
Vs Va alignment
7200 BSN304
7202 BSN20
VCC-SUPPLY
F116 = 12V4
F261 = 3V3
I101 = 76V
I124 = 10V6
I127 = 2V8
I128 = 3V9
I132 = 2V6
I200 = 97V
I201 = 78V3
I202 = 0V
I208 = 0V
I213 = 0V
I214 = 14V2
I220 = 9V
I261 = 17V3
I266 = 0V
7220 TCET1102
5220 CT296F
7212 TEA1507
7217 PSMN070
6224 STPS20L40CFP
6225 STPS20L40CFP
7227 TL431CZ
7230 L4940
TO P 4 FANCONTROL
+12V
+8V6
TO P 3 PROTECTION
3122 123 6004.5
CL 26532038_031.eps
040703
1 2 3 4 5 6 7 8 9 10 11 12 13
A B C D E F G H I

0305	A13
0323	E13
0333	D12
0342	G12
0352	G13
0392	H4
1110	B1
1200	G5
1260	A6
2021	I3
2050	G3
2054	C1
2055	F2
2058	H2
2059	I1
2061	I2
2111	D1
2112	D1
2113	E1
2114	E2
2117	D3
2118	C4
2121	D11
2122	D8
2123	D8
2126	E8
2133	E9
2138	D6
2203	I4
2205	I6
2210	I6
2211	I7
2212	H7
2217	I8
2218	H9
2219	H9
2222	H10
2223	G10
2224	G10
2225	H10
2226	H11
2227	G11
2228	H12
2230	I11
2231	I11
2232	I10
2260	B7
2261	A7
2262	A7
2263	B8
2264	B8
2265	A8
2266	B8
2267	B10
2268	A10
2269	B11
2270	A9
3051	G2
3053	H3
3054	B1
3058	G2
3062	H2
3083	H2
3084	I1
3085	I1
3086	I2
3087	I1
3088	I1
3110	C2
3111	C2
3112	D1
3113	D2
3114	D2
3115	D3
3116	D3
3117	D3
3118	D4
3119	D4
3120	D7
3121	D7
3122	D8
3123	D8
3124	D8
3125	E8
3126	E7
3127	E7
3128	E8
3129	C1
3130	D8
3131	D9
3132	E8
3133	C8
3134	D10
3135	E10
3136	E10
3138	D5
3139	D6
3140	E6
3141	E6
3142	E6
3146	C6
3147	D9
3200	G5
3201	G6
3202	H5
3203	I4
3204	I5
3205	I5
3212	H6
3213	I7
3214	I7
3216	H8
3217	I8
3218	I9
3219	I9
3224	G11
3225	H11
3226	H11
3228	F12
3240	G4
3241	H4
3260	B7
3261	B7
3262	A8
3264	A8
3265	A8
3268	B11
4268	B11
5120	C5
5200	G5
5220	G9
5224	G11
5225	G11
5260	A6
5268	B11
6050	G3
6054	E1
6055	E1
6061	I3
6086	I1
6111	D1
6112	E1
6113	D2
6117	C3
6120	D4
6123	D8
6133	B6
6142	G4
6202	I4
6205	I5
6206	F5
6211	I7
6213	I7
6216	H8
6224	G10
6225	H10
6230	I10
6232	I10
6260	B7
6267	B10
7050	G3
7052	I3
7058	I1
7059	I2
7110	C2
7111	C2
7112	C2
7117	C3
7120	C4
7121	D7
7130	E9
7134	E10
7140-A	E5
7140-B	D6
7142	D6
7200	G6
7202	H5
7212	H7
7217	H8
7220	F9
7227	H11
7230	I11
7260	A10
F102	C13
F106	F13
F107	G13
F110	A1
F111	C9
F113	G4
F114	I11
F115	A9
F116	I11
F118	E12
F119	E12
F120	F12
F121	E13
F122	C12
F123	E13
F124	C12
F125	E11
F126	E11
F127	E11
F128	E11
F129	F12
F130	D12
F131	D12
F132	F13
F133	F12
F134	F12
F135	G12
F136	G12
F137	H13
F138	H12
F139	H13
F140	G12
F240	H4
F241	H4
F260	A6
F261	B12
F262	B12
F263	B13
F264	B13
I101	B2
I102	C2
I103	C3
I104	C2
I105	C1
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I107	D4
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I110	D3
I111	D4
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I113	E1
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I115	D2
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I158	C1
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I261	A7
I262	A8
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I264	B8
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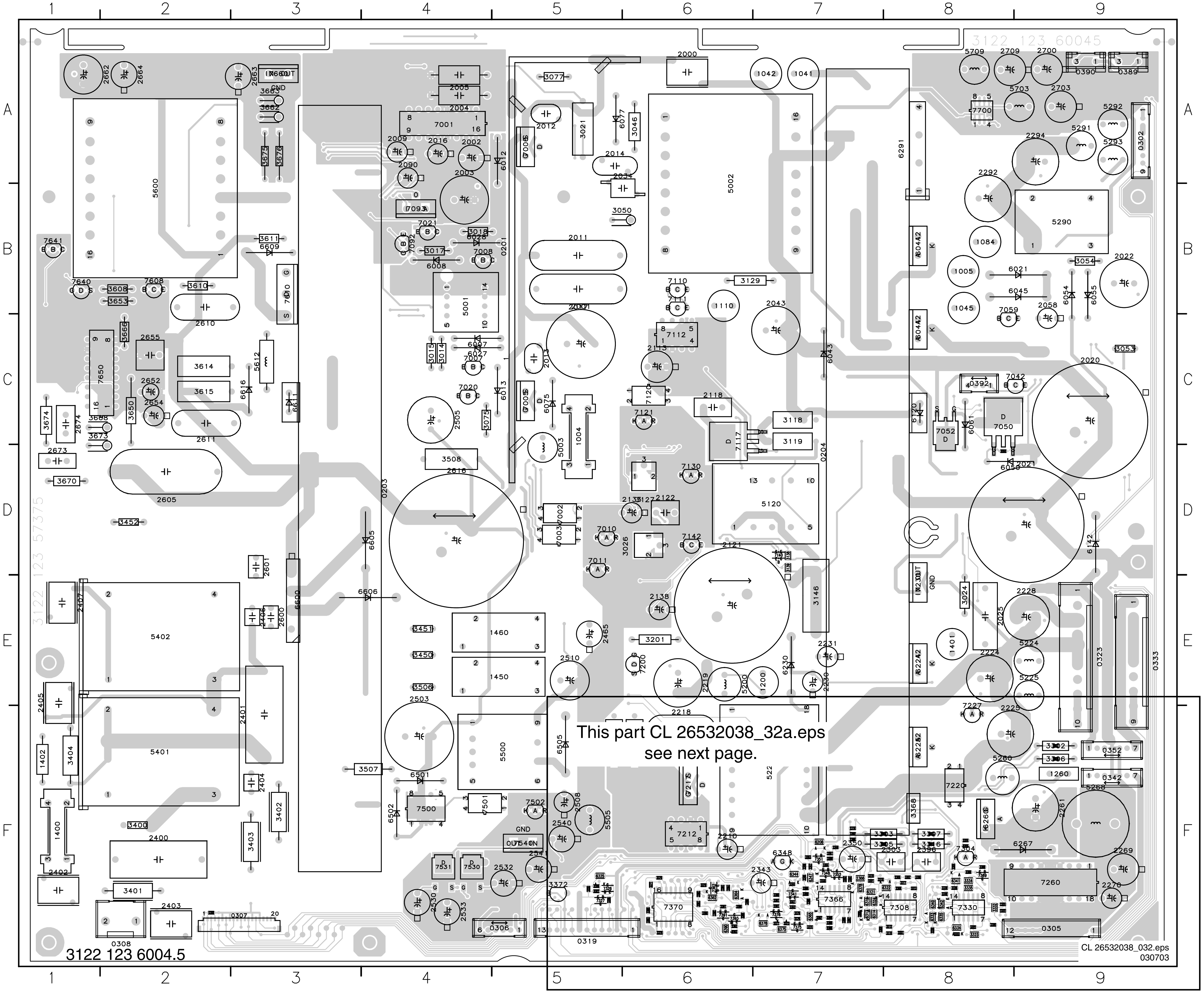
Layout Power Supply Panel (FM23 AC) (Top Side)



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0308	F2	2503	E4	3352	F7	5612	C3	7230	E8
0319	F5	2505	C4	3353	F7	5703	A9	7260	F9
0323	E9	2508	F5	3354	F7	5709	A8	7304	F8
0333	E9	2510	E5	3358	F6	6007	C4	7308	F8
0342	F9	2530	F4	3359	F7	6008	B4	7326	F5
0352	F9	2532	F5	3360	F6	6012	A5	7327	F5
0389	A9	2533	F4	3361	F6	6013	C5	7330	F8
0390	A9	2540	F5	3362	F6	6021	B9	7341	F7
0392	C8	2541	F5	3363	F6	6027	C4	7348	F7
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1045	B8	2611	C2	3368	F8	6045	B9	7370	F6
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1402	F1	2664	A2	3376	F7	6120	C8	7501	F4
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2001	B5	2703	A9	3381	F7	6225	F8	7540	F5
2002	A4	2709	A8	3382	F7	6230	E7	7608	B2
2003	A4	3014	C4	3385	F7	6260	F8	7610	B3
2004	A4	3015	C4	3386	F7	6267	F9	7640	B1
2005	A4	3017	B4	3387	F7	6291	A8	7641	B1
2009	A4	3018	B4	3388	F8	6312	F7	7650	C2
2011	B5	3021	A5	3389	F8	6313	F7	7660	A3
2012	A5	3024	E8	3390	F6	6314	F7	7700	A8
2013	C5	3026	D6	3391	F6	6321	F7		
2014	A5	3046	A6	3392	F6	6322	F8		
2016	A4	3050	B5	3393	F6	6324	F7		
2017	B5	3053	C9	3394	F6	6325	F5		
2020	C9	3054	B9	3395	F6	6333	F8		
2021	D9	3075	C4	3396	F9	6334	F8		
2022	B9	3077	A5	3397	F8	6335	F8		
2025	E8	3118	C7	3400	F2	6340	F8		
2034	A6	3119	C7	3401	F2	6341	F8		
2043	B7	3127	D6	3402	F3	6342	F8		
2050	D8	3129	B6	3403	F3	6344	F7		
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2090	A4	3139	D7	3450	E4	6348	F7		
2113	C6	3146	E7	3451	E4	6362	F6		
2118	C6	3201	E6	3452	D2	6364	F6		
2121	D6	3218	F5	3506	E4	6365	F7		
2122	D6	3219	F6	3507	F4	6375	F7		
2133	D6	3302	F9	3508	D4	6376	F7		
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2210	F6	3304	F8	3610	B2	6390	F6		
2218	F6	3305	F8	3611	B3	6501	F4		
2219	E6	3306	F8	3614	C2	6502	F4		
2224	E8	3307	F8	3615	C2	6505	F5		
2225	F8	3308	F7	3650	C2	6600	E3		
2228	E9	3309	F7	3653	B2	6605	D4		
2230	E7	3310	F8	3662	A3	6606	E4		
2231	E7	3312	F8	3663	A3	6609	B3		
2261	F9	3313	F8	3666	C2	6611	C3		
2269	F9	3316	F8	3668	C1	6616	C3		
2270	F9	3317	F8	3670	D1	7001	A4		
2292	A8	3318	F7	3673	C1	7002	D5		
2294	A9	3319	F7	3674	C1	7003	D5		
2303	F8	3320	F8	3675	A3	7005	C5		
2304	F8	3321	F7	3676	A3	7006	A5		
2305	F8	3322	F8	3800	F9	7007	C4		
2306	F8	3323	F8	3801	F8	7008	B4		
2316	F7	3324	F8	3802	F8	7010	D5		
2322	F8	3325	F5	3803	F9	7011	D5		
2324	F8	3326	F5	3804	F8	7020	C4		
2343	F7	3327	F5	3805	F8	7021	B4		
2350	F7	3328	F5	4300	F2	7042	C9		
2352	F7	3330	F8	5001	B4	7050	C8		
2364	F6	3331	F8	5002	B6	7052	C8		
2366	F7	3332	F8	5003	D5	7059	B8		
2370	F6	3333	F8	5120	D7	7092	B4		
2376	F7	3334	F8	5200	E6	7093	B4		
2380	F7	3335	F8	5220	F7	7110	B6		
2381	F7	3338	F8	5224	E9	7111	B6		
2385	F7	3339	F8	5225	E9	7112	C6		
2393	F6	3340	F8	5260	F8	7117	C6		
2396	F8	3341	F7	5268	F9	7120	C6		
2400	F2	3342	F7	5290	B9	7121	C6		
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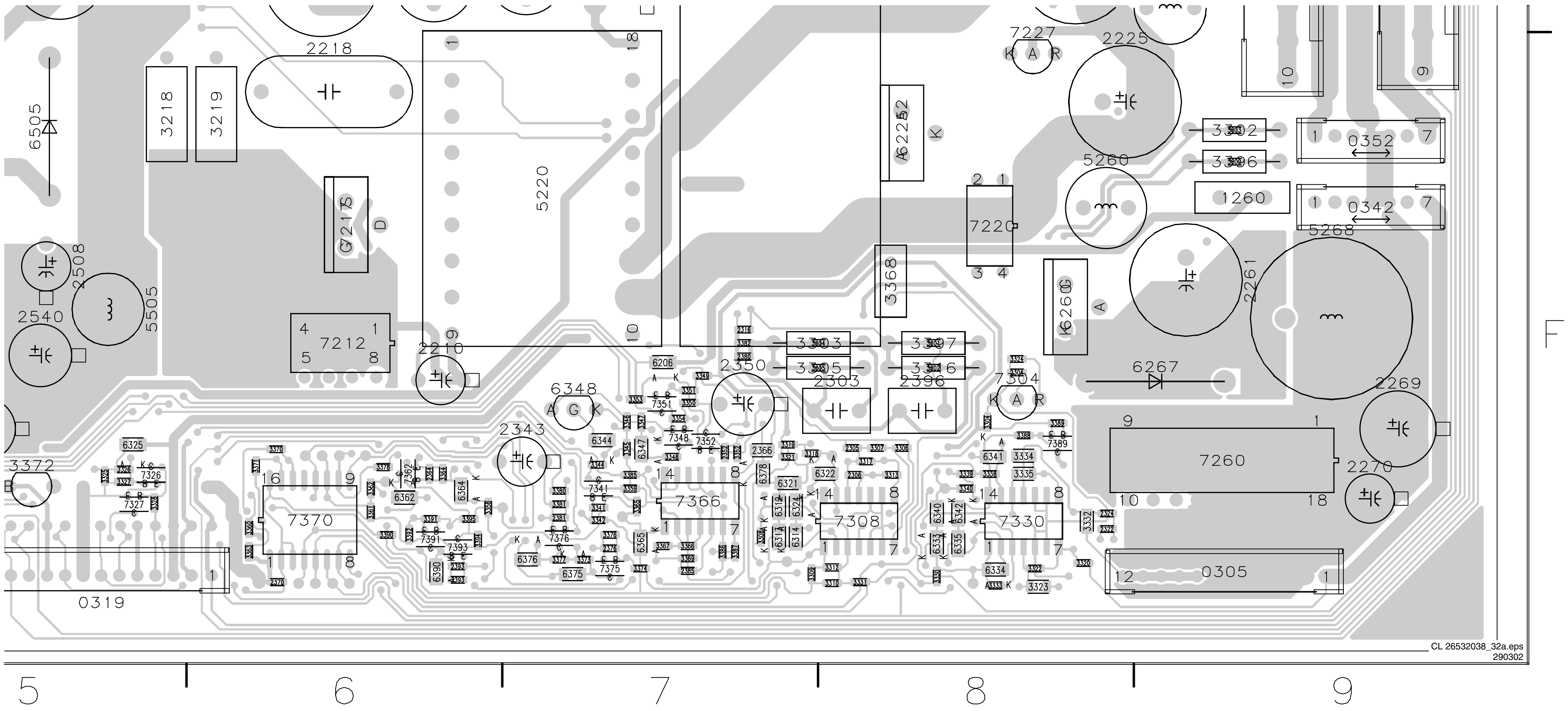
Layout Power Supply Panel (FM23 AC) (Part 1 Top Side)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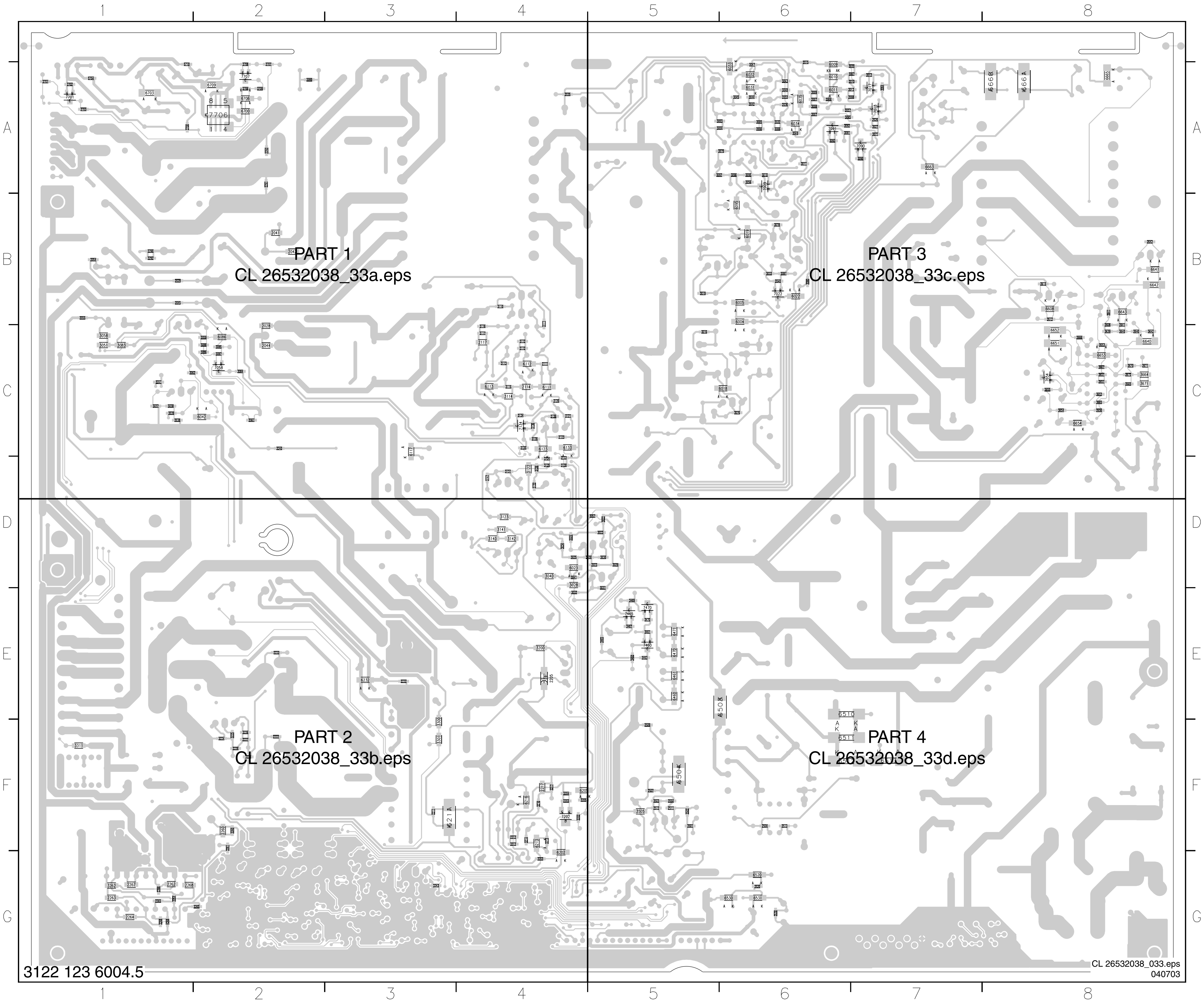
290302

Layout Power Supply Panel (FM23 AC) (Overview Bottom Side)



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2008	A7	3031	E5	3268	G1	6652	C8
2010	A7	3032	E4	3292	B1	6653	C8
2015	A6	3033	B6	3300	F3	6654	C8
2023	D5	3034	D4	3301	F3	6660	A8
2024	D4	3037	C1	3311	F1	6661	A8
2026	A7	3038	C1	3343	G3	6663	A7
2027	A6	3039	C1	3460	E5	6665	A8
2028	C2	3040	D4	3461	E5	6700	A2
2029	B1	3041	D4	3463	E5	6703	A1
2030	D5	3042	A6	3465	E5	6706	A2
2032	A6	3043	A6	3467	E5	6709	A2
2033	A6	3044	A6	3469	E5	7009	A6
2035	A4	3045	A6	3470	E5	7017	A7
2036	A6	3047	A6	3501	F5	7018	A7
2038	C1	3048	A6	3502	F5	7022	B6
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2041	B2	3051	C1	3504	F5	7090	A7
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2055	B1	3064	A7	3640	C8	7465	E5
2059	C2	3065	A6	3641	B8	7470	E5
2061	C2	3066	A6	3642	C8	7654	C8
2111	C4	3067	A7	3651	C8	7701	A1
2112	C4	3070	A6	3652	C8	7706	A2
2114	C4	3071	A7	3654	C8	7707	A2
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2123	C4	3078	B6	3664	C8		
2126	C4	3080	B6	3665	C8		
2203	F4	3081	B6	3667	C8		
2205	E4	3083	C1	3671	C8		
2211	F3	3084	C2	3700	A1		
2212	F4	3085	C2	3701	A1		
2217	F4	3086	C2	3702	A1		
2222	F2	3087	C2	3703	A1		
2223	E2	3088	C2	3706	A2		
2226	F2	3090	A7	3707	A2		
2227	F2	3091	A6	3708	A2		
2232	E3	3092	A6	3709	A2		
2260	F2	3093	A6	3999	A2		
2262	G1	3095	A6	4268	G1		
2263	G1	3096	A6	5704	A1		
2264	G1	3097	A6	5710	A1		
2265	G1	3110	B4	6004	B6		
2266	G1	3111	B4	6005	B6		
2267	G1	3112	C4	6009	A6		
2268	G1	3113	C4	6010	A6		
2290	B1	3114	C4	6011	A6		
2291	A2	3115	C4	6018	C6		
2293	A2	3116	C4	6019	B6		
2504	F6	3117	C4	6022	B6		
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2511	F5	3122	D4	6032	A6		
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2608	C8	3125	D4	6035	A6		
2612	B8	3126	D4	6042	C2		
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2641	C8	3131	D4	6111	C4		
2642	B8	3132	D4	6112	C4		
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2653	C8	3134	C4	6117	C3		
2656	C8	3135	C4	6123	C4		
2665	C8	3136	C4	6133	C4		
2666	C8	3140	D4	6202	G4		
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3004	A6	3202	F4	6232	E3		
3005	A6	3203	G4	6460	E5		
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3016	C5	3225	F2	6513	F7		
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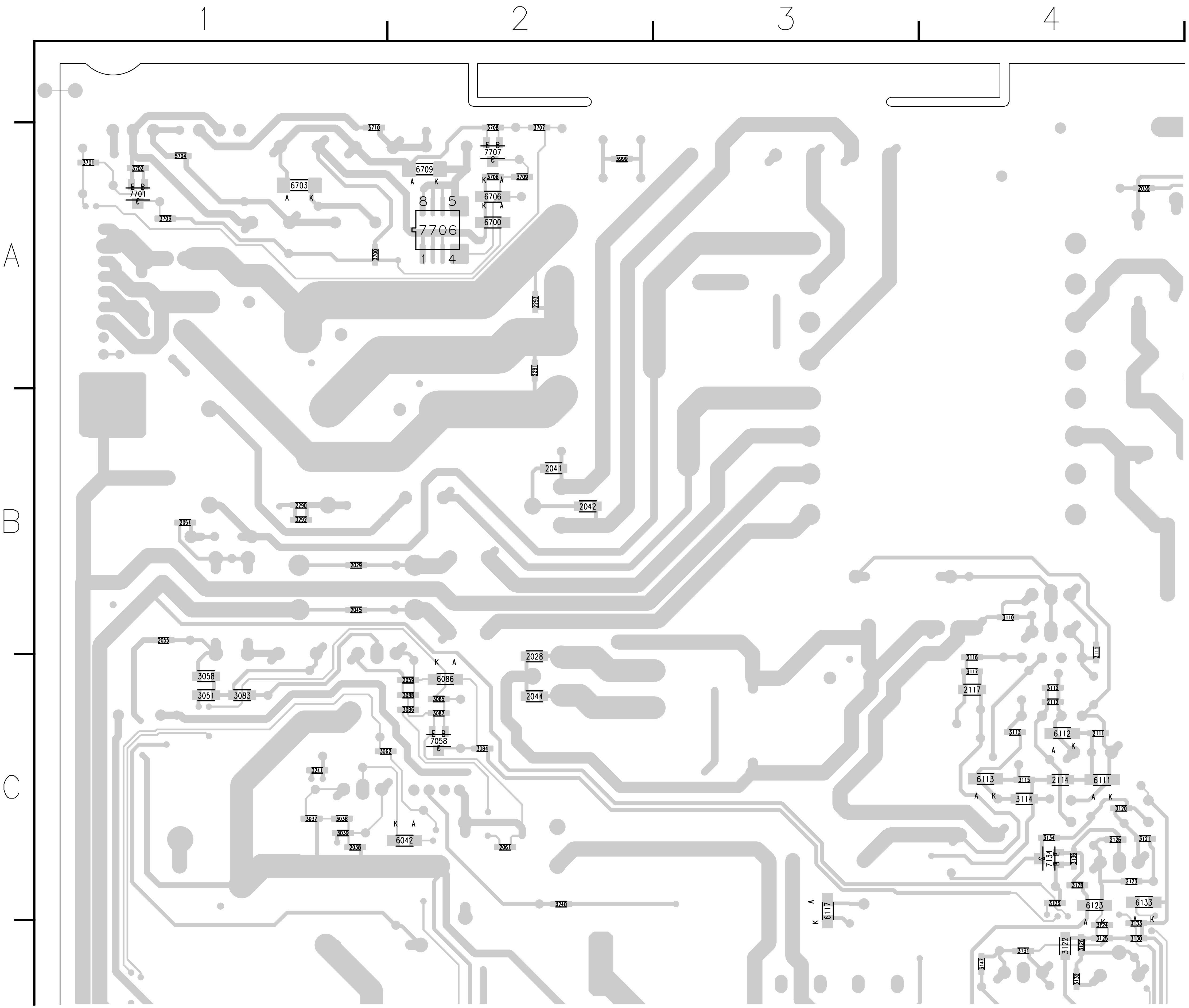
Layout Power Supply Panel (FM23 AC) (Part 1 Bottom Side)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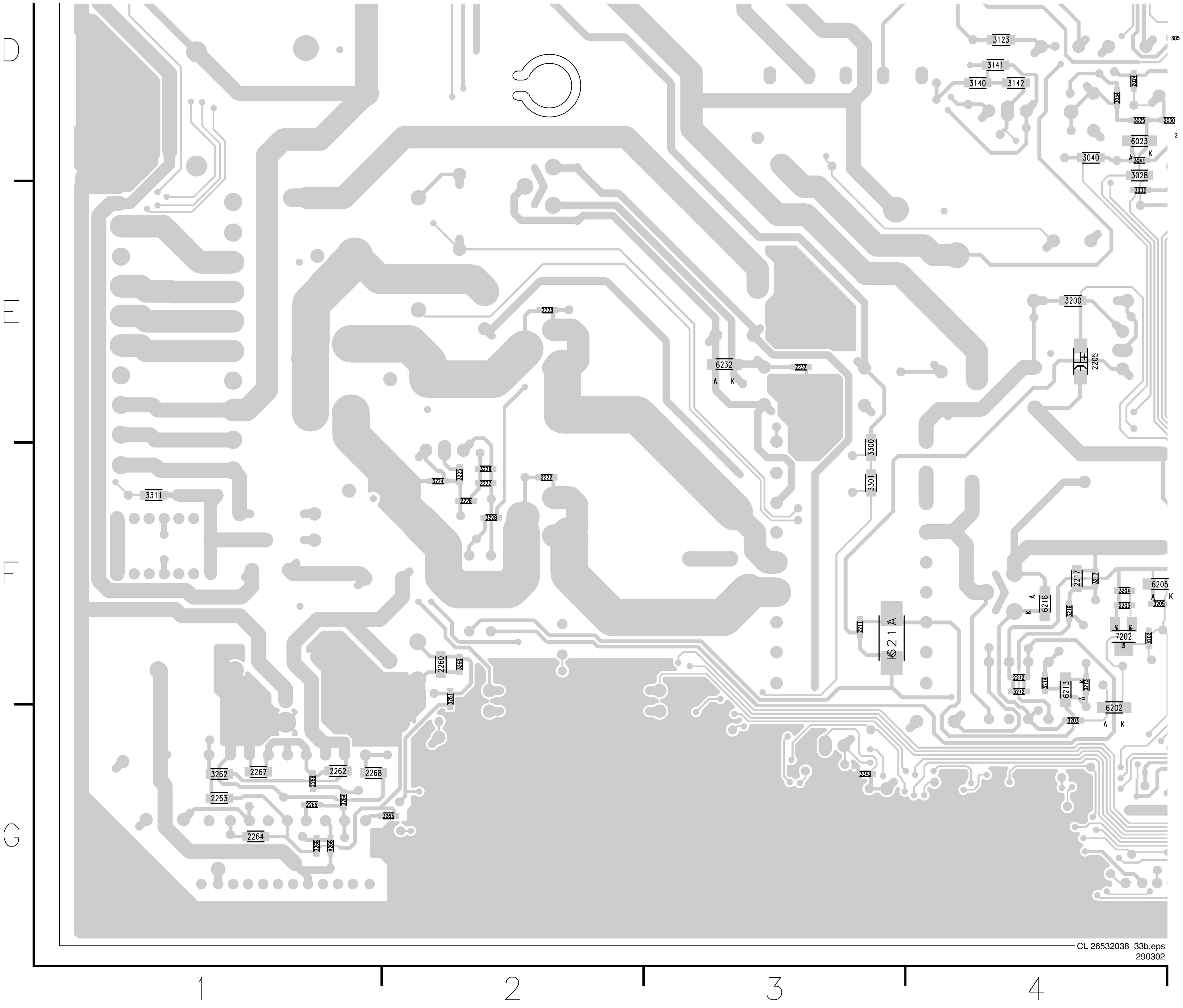
Layout Power Supply Panel (FM23 AC) (Part 2 Bottom Side)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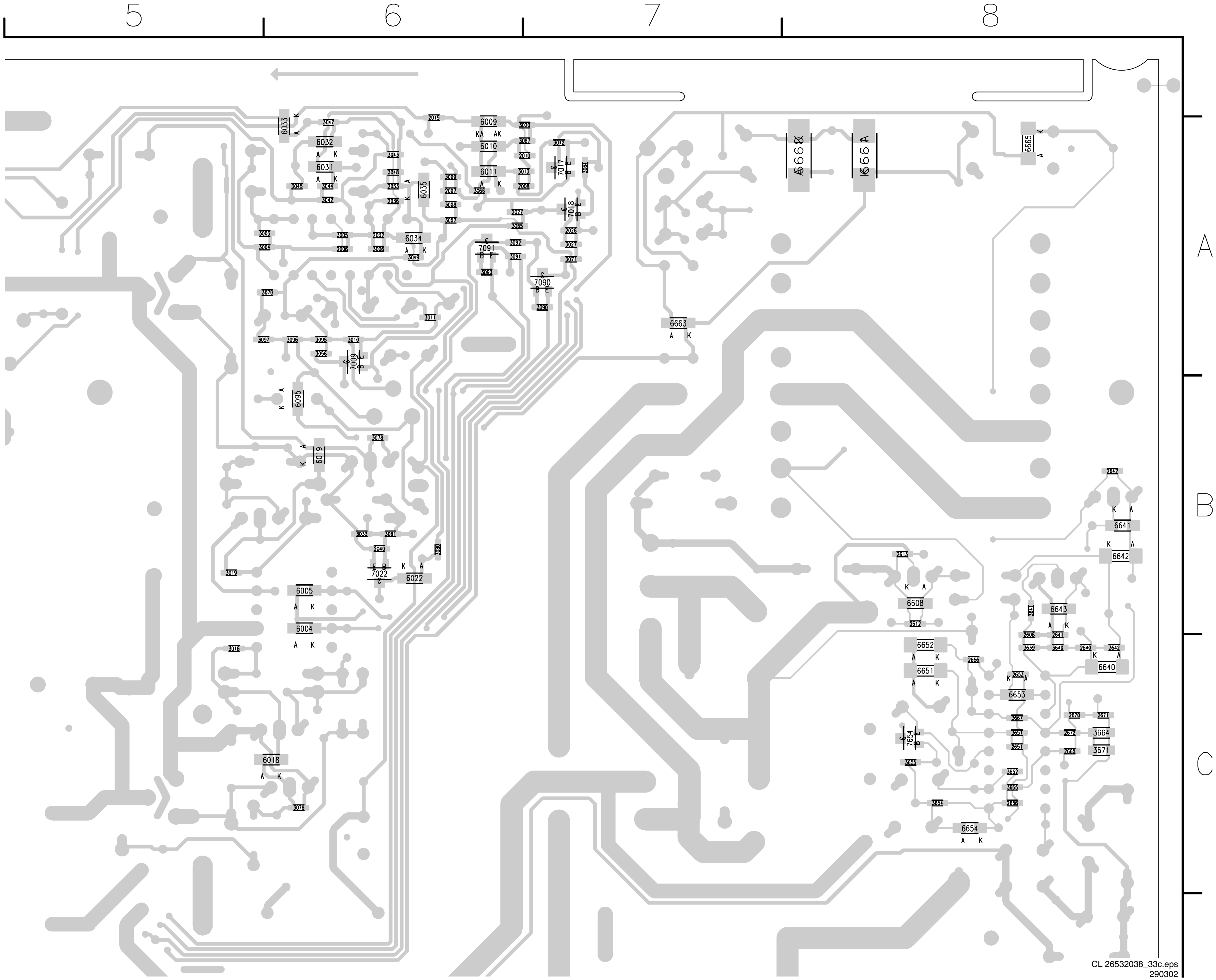
CL 26532038_33b.eps
290302

Layout Power Supply Panel (FM23 AC) (Part 3 Bottom Side)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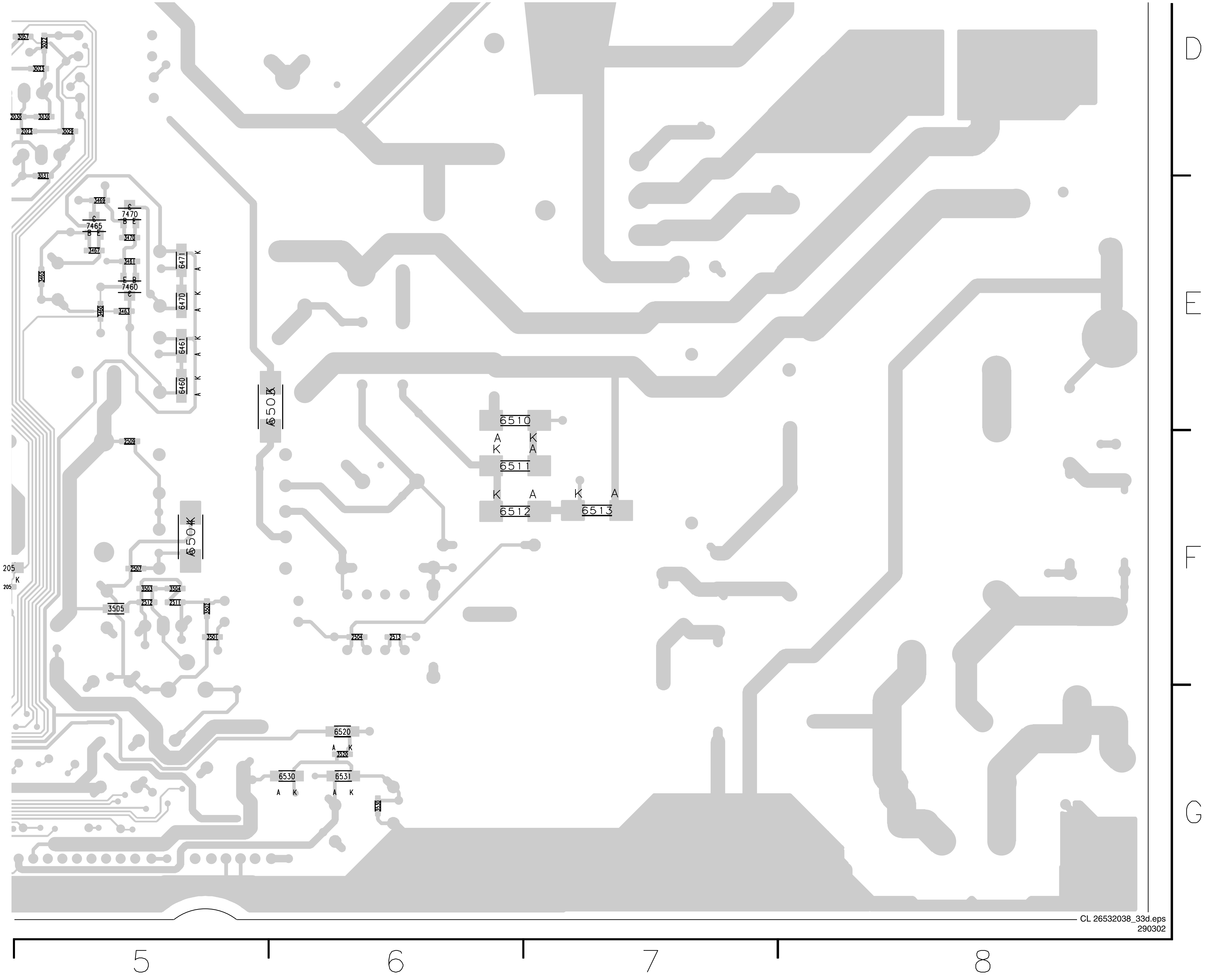
Layout Power Supply Panel (FM23 AC) (Part 4 Bottom Side)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E B
C
3460
3463
6471
6470
6461
6460
K
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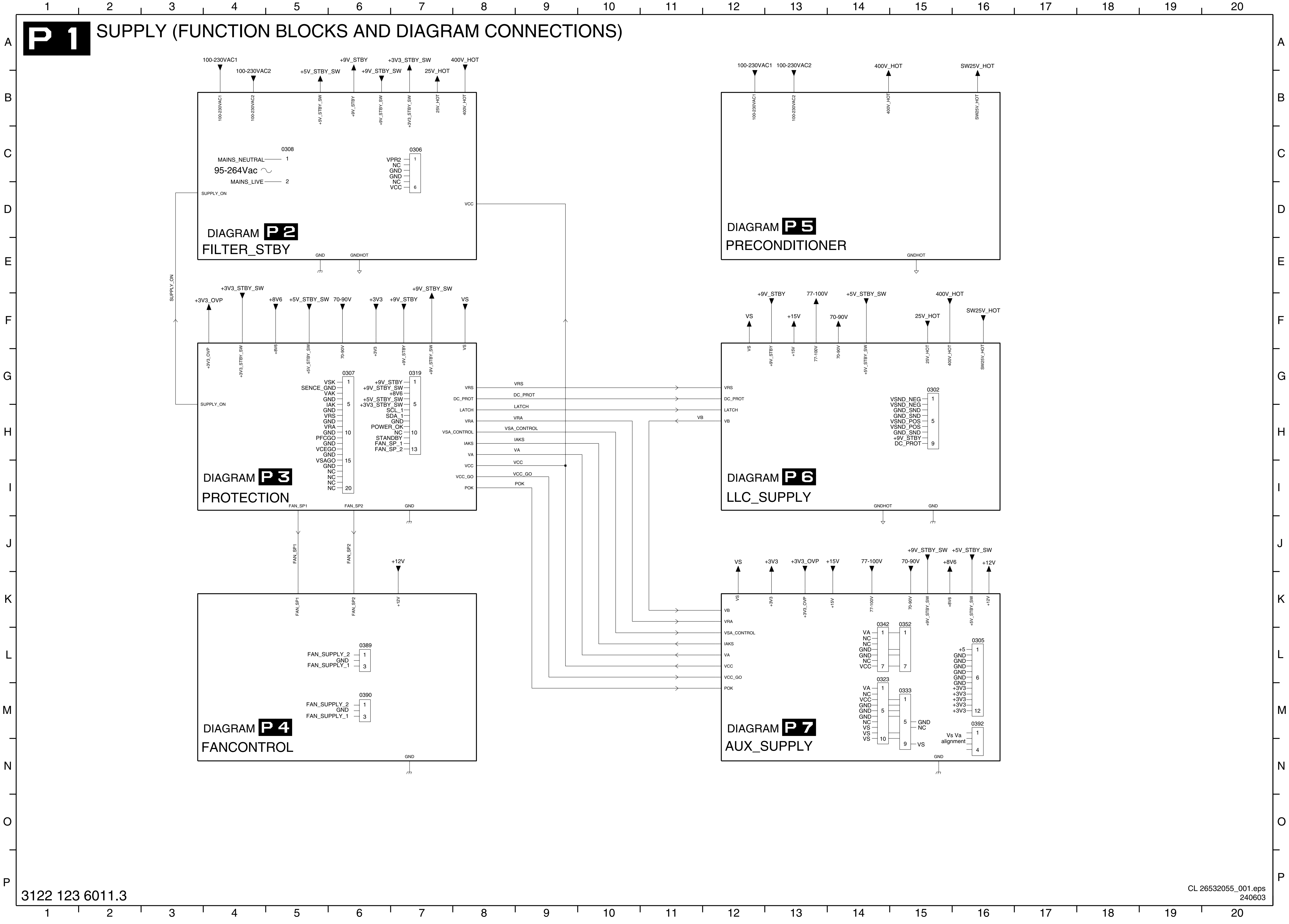
Power Supply Panel (FM24 AB): Function Blocks and Diagram Connections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100-230VAC2
+5V_STBY_SW
+9V_STBY
+9V_STBY_SW
+3V3_STBY_SW
25V_HOT
400V_HOT
0308
MAINS_NEUTRAL 1
95-264Vac
MAINS_LIVE 2
0306
VPR2 1
NC
GND
GND
NC
VCC 6
SUPPLY_ON
VCC
GND
GNDHOT
DIAGRAM P 5
PRECONDITIONER
SW25V_HOT
DIAGRAM P 3
PROTECTION
+3V3_OVP
+8V6
70-90V
+3V3
VS
0307
VSK 1
SENCE_GND
VAK
GND
IAK 5
GND
VRS
GND
VRA
GND 10
PFCGO
GND
VCEGO
GND
VSAGO 15
GND
NC
NC
NC
NC 20
0319
+9V_STBY 1
+9V_STBY_SW
+8V6
+5V_STBY_SW
+3V3_STBY_SW 5
SCL_1
SDA_1
GND
POWER_OK
NC 10
STANDBY
FAN_SP_1
FAN_SP_2 13
VRS
DC_PROT
LATCH
VRA
VSA_CONTROL
IAKS
VA
VCC
VCC_GO
POK
FAN_SP1
FAN_SP2
DIAGRAM P 6
LLC_SUPPLY
+15V
77-100V
0302
VSND_NEG 1
VSND_NEG
GND_SND
GND_SND
VSND_POS 5
VSND_POS
GND_SND
+9V_STBY
DC_PROT 9
VB
DIAGRAM P 4
FANCONTROL
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GND
FAN_SUPPLY_1 3
0390
FAN_SUPPLY_2 1
GND
FAN_SUPPLY_1 3
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NC
NC
GND
GND
NC
VCC 7
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GND
NC
VS
VS
VS 10
0333
1
5 GND
NC
9 VS
0305
+5 1
GND
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GND
GND 6
GND
GND
+3V3
+3V3
+3V3
+3V3
+3V3 12
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C
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F
G
H
I
J
K
L
M
N
O
P
1
2
3
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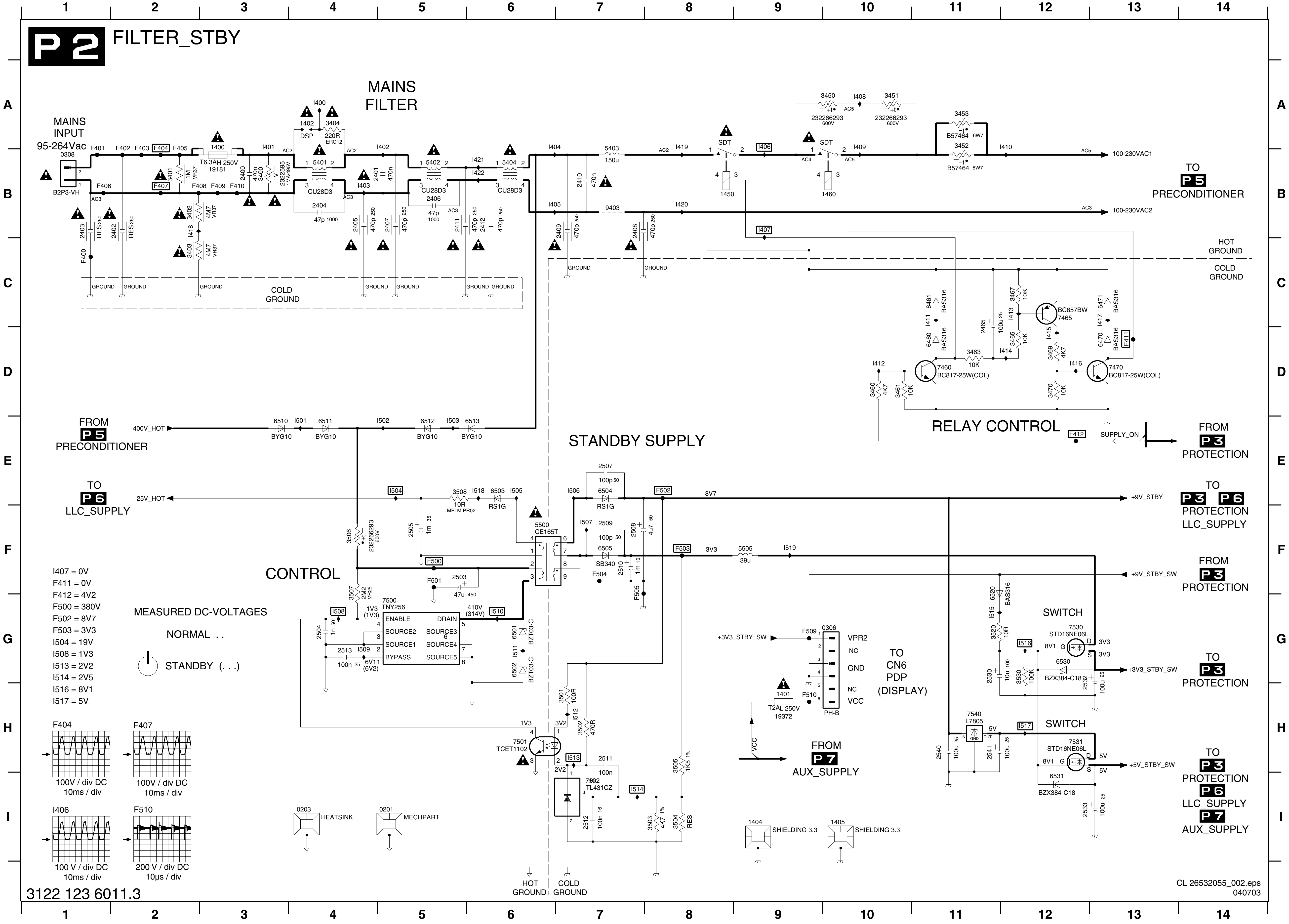
19
20

3122 123 6011.3

CL 26532055_001.eps
240603

Power Supply Panel (FM24 AB): Filter Standby


P 2 FILTER_STBY
MAINS FILTER
MAINS INPUT
95-264Vac
0308
B2P3-VH
T6.3AH 250V
19181
DSP
SDT
1450
1460
100-230VAC1
100-230VAC2
TO P 5 PRECONDITIONER
HOT GROUND
COLD GROUND
COLD GROUND
RELAY CONTROL
BC857BW 7465
7460 BC817-25W(COL)
7470 BC817-25W(COL)
SUPPLY_ON
FROM P 3 PROTECTION
FROM P 5 PRECONDITIONER
400V_HOT
STANDBY SUPPLY
TO P 6 LLC_SUPPLY
25V_HOT
5500 CE165T
+9V_STBY
TO P 3 P 6 PROTECTION LLC_SUPPLY
8V7
3V3
+9V_STBY_SW
FROM P 3 PROTECTION
CONTROL
7500 TNY256
ENABLE
DRAIN
SOURCE2
SOURCE3
SOURCE1
SOURCE4
BYPASS
SOURCE5
410V (314V)
I407 = 0V
F411 = 0V
F412 = 4V2
F500 = 380V
F502 = 8V7
F503 = 3V3
I504 = 19V
I508 = 1V3
I513 = 2V2
I514 = 2V5
I516 = 8V1
I517 = 5V
MEASURED DC-VOLTAGES
NORMAL . .
STANDBY (. . .)
+3V3_STBY_SW
0306
VPR2
NC
GND
NC
VCC
PH-B
TO CN6 PDP (DISPLAY)
1401 T2AL 250V 19372
FROM P 7 AUX_SUPPLY
SWITCH
7530 STD16NE06L
+3V3_STBY_SW
TO P 3 PROTECTION
7540 L7805
SWITCH
7531 STD16NE06L
+5V_STBY_SW
TO P 3 PROTECTION P 6 LLC_SUPPLY P 7 AUX_SUPPLY
7501 TCET1102
7502 TL431CZ
F404
100V / div DC 10ms / div
F407
100V / div DC 10ms / div
I406
100 V / div DC 10ms / div
F510
200 V / div DC 10µs / div
0203 HEATSINK
0201 MECHPART
1404 SHIELDING 3.3
1405 SHIELDING 3.3
HOT GROUND
COLD GROUND
3122 123 6011.3
CL 26532055_002.eps 040703

0201	I5
0203	I4
0306	G9
0308	B1
1400	B3
1401	H9
1402	A4
1404	I9
1405	I10
1450	B8
1460	B10
2400	B3
2401	B5
2402	B2
2403	B1
2404	B4
2405	B4
2406	B5
2407	B5
2408	B7
2409	B7
2410	B7
2411	B5
2412	B6
2465	C11
2503	F5
2504	G4
2505	F5
2507	E7
2508	F7
2509	F7
2510	F7
2511	H7
2512	I7
2513	G4
2530	G11
2532	G12
2533	I12
2540	H11
2541	H11
3400	B3
3401	B2
3402	B2
3403	C2
3404	A4
3450	A10
3451	A10
3452	A11
3453	A11
3460	D10
3461	D10
3463	D11
3465	D12
3467	C12
3469	D12
3470	D12
3501	H7
3502	H7
3503	I8
3504	I8
3505	H8
3506	F4
3507	F4
3508	E5
3520	G11
3530	G12
5401	B4
5402	B5
5403	B7
5404	B6
5500	F6
5505	F9
6460	D11
6461	C11
6470	D13
6471	C13
6501	G6
6502	G6
6503	E6
6504	E7
6505	F7
6510	E3
6511	E4
6512	E5
6513	E6
6520	F11
6530	G12
6531	I12
7460	D11
7465	C12
7470	D13
7500	G5
7501	H6
7502	I7
7530	G12
7531	H12
7540	H11
9403	B7
F400	C1
F401	B1
F402	B2
F403	B2
F404	B2
F405	B2
F406	B1
F407	B2
F408	B2
F409	B3
F410	B3
F411	D13
F412	E12
F500	F5
F501	F5
F502	E8
F503	F8
F504	F7
F505	F7
F509	G9
F510	H9
I400	A4
I401	A3
I402	A5
I403	B4
I404	A6
I405	B6
I406	A9
I407	B9
I408	A10
I409	A10
I410	A12
I411	C11
I412	D10
I413	C12
I414	D12
I415	D12
I416	D12
I417	C13
I418	B2
I419	A8
I420	B8
I421	B6
I422	B6
I501	E4
I502	E5
I503	E5
I504	E5
I505	E6
I506	E7
I507	F7
I508	G4
I509	G4
I510	G6
I511	G6
I512	H7
I513	H7
I514	I7
I515	G11
I516	G12
I517	H12
I518	E6
I519	F9

Power Supply Panel (FM24 AB): Protection

0307 F8
0319 A15
2303 F4
2304 D1
2305 D1
2306 D3
2316 F3
2322 D4
2324 E6
2343 E8

2350 D9
2352 E9
2364 E11
2366 E15
2370 C13
2376 G2
2380 F4
2381 H1
2385 H4
2393 H11

2396 F3
3300 B1
3301 C1
3302 F3
3303 F3
3304 D1
3305 F3
3306 D1
3307 E1
3308 C2

3309 B3
3310 B3
3311 B3
3312 C3
3313 D3
3316 F2
3317 E3
3318 B4
3319 B4
3320 B4

3321 C4
3322 D4
3323 E4
3324 D1
3325 G12
3326 G12
3327 G12
3328 G13
3330 C5
3331 B5

3332 C6
3333 C6
3334 D6
3335 E6
3338 C7
3339 C7
3340 C7
3341 C7
3342 D7
3343 E7

3344 D8
3345 C8
3346 C8
3347 D8
3348 D8
3349 C9
3350 D9
3351 D9
3352 E9
3353 E10

3354 E9
3358 C11
3359 C11
3360 D10
3361 C10
3362 D10
3363 E10
3364 E11
3365 D12
3366 D12

3367 E12
3368 D13
3369 E13
3370 B13
3371 B13
3372 B13
3373 F1
3374 F2
3376 G2
3377 G1

3378 E13
3380 H2
3381 H1
3382 F4
3385 H4
3386 G6
3387 G6
3388 F8
3389 F9
3390 G10

3391 G10
3392 F11
3393 H10
3394 F11
3395 F10
3396 F2
3397 F2
3800 F2
3801 F2
3802 F2

3803 F4
3804 F4
3805 F4
4300 F7
6312 C2
6313 D2
6314 E2
6321 C4
6322 D4
6324 E4

6325 G12
6333 C5
6334 D5
6335 E5
6340 C7
6341 D7
6342 E7
6344 D8
6347 C8
6348 D8

6362 D10
6364 D11
6365 E12
6375 F1
6376 G1
6378 F14
6390 G10
7304 E1
7308-A D2
7308-B C2

7308-C D3
7308-D C3
7326 G13
7327 G14
7330-A D5
7330-B C5
7330-C D6
7330-D C6
7341 D8
7348 D8

7351 D10
7352 D9
7362 D11
7366-A D12
7366-B G5
7366-C E14
7366-D G4
7370 A13
7375 F1
7376 H1

7389 F9
7391 G11
7393 G11
F300 A14
F301 A14
F302 A14
F303 B14
F304 B14
F305 B14
F306 B14

F307 B14
F308 B14
F309 B14
F310 C14
F311 C14
F312 C14
F313 F7
F314 F7
F315 F7
F316 F7

F317 G7
F318 G7
F319 H7
F320 H7
F321 G7
F322 E8
F323 D13
F324 F7
F325 C1
F343 D7

F368 C3
I301 C1
I303 F1
I304 D1
I305 F1
I306 E1
I307 E1
I308 F2
I309 F2
I310 G1

I311 H2
I312 D2
I313 C2
I314 D3
I316 D3
I318 C4
I322 D4
I324 D4
I325 G12
I326 G13

I327 G13
I330 D4
I331 C5
I332 C6
I334 D5
I335 D6
I338 C7
I339 E11
I341 D7
I342 D7

I344 D8
I345 D7
I347 D8
I348 D8
I349 D9
I350 D9
I351 D9
I352 D9
I362 D11
I363 C11

I364 D11
I365 D12
I366 D12
I367 D11
I370 B10
I371 B10
I372 B10
I373 B10
I374 B10
I375 B10

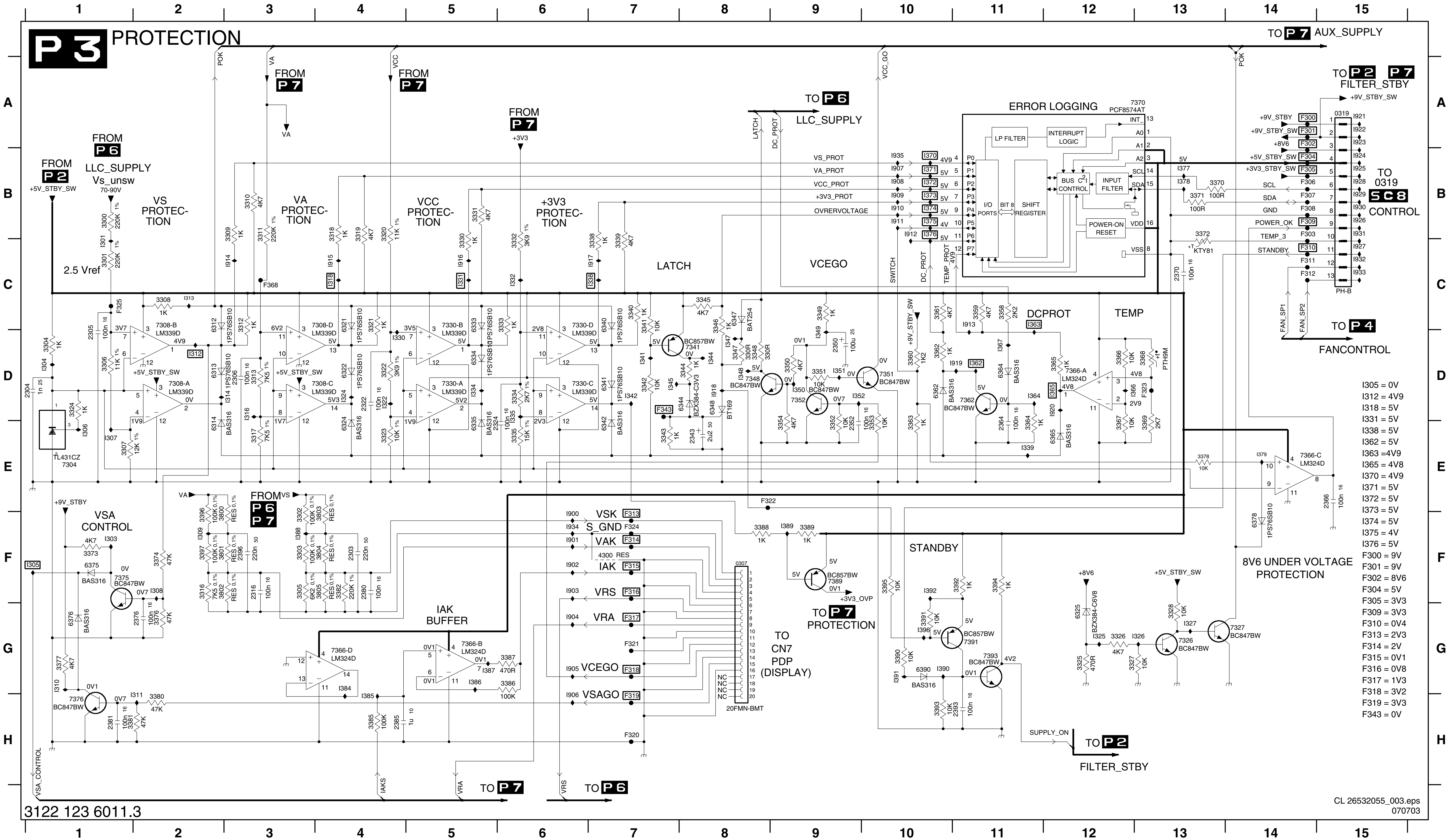
I376 B10
I377 B13
I378 B13
I379 E14
I384 G4
I385 H4
I386 G5
I387 G5
I388 F3
I389 F9

I390 G10
I391 G10
I392 F10
I396 G10
I900 F6
I901 F6
I902 F6
I903 F6
I904 G6
I905 G6

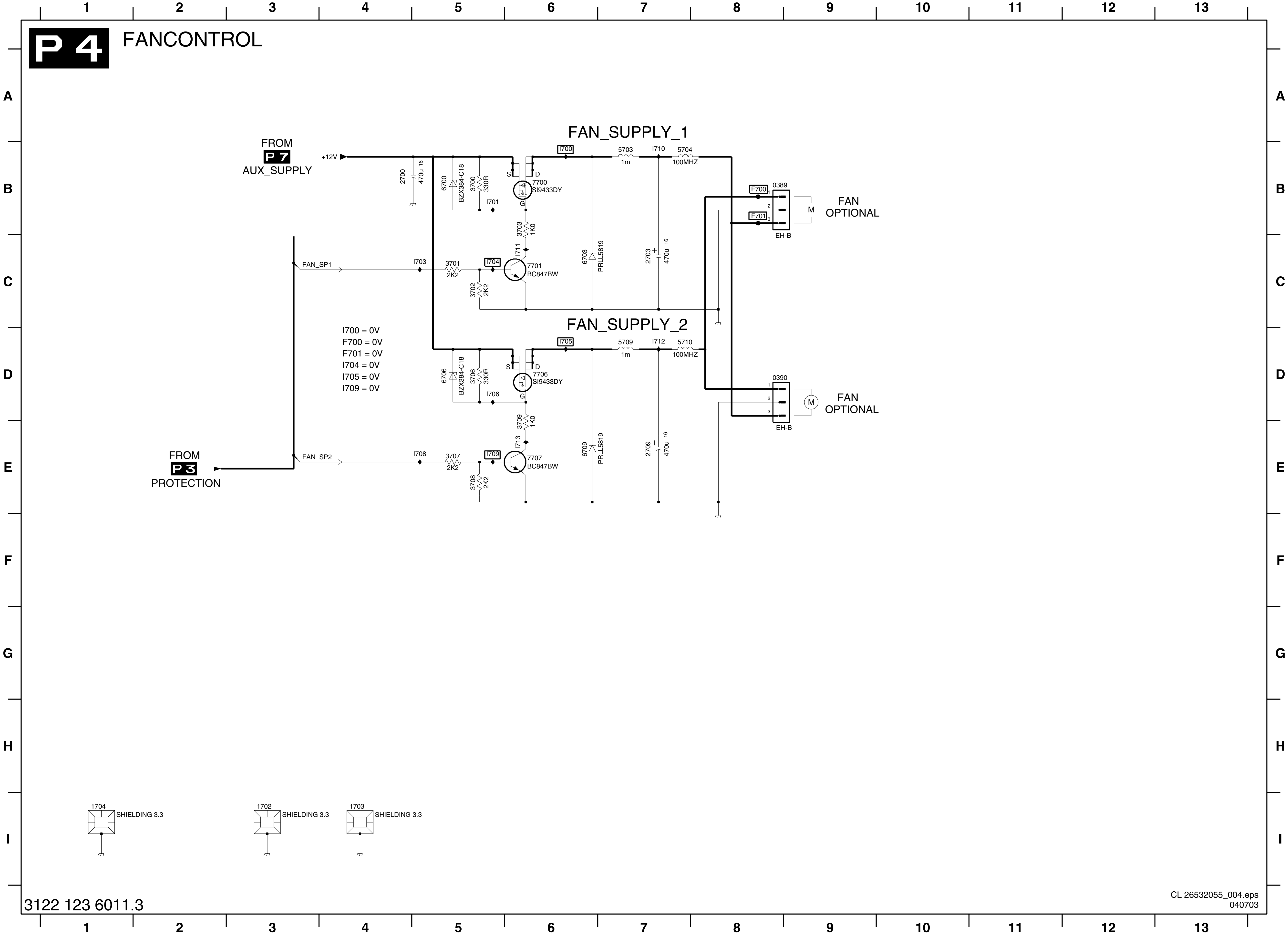
I906 H6
I907 B10
I908 B10
I909 B10
I910 B10
I911 B10
I912 B10
I913 C11
I914 C3
I915 C4

I916 C5
I917 C7
I918 D8
I919 D11
I920 D12
I921 A15
I922 A15
I923 A15
I924 B15
I925 B15

I926 B15
I927 C15
I928 B15
I929 B15
I930 B15
I931 B15
I932 C15
I933 C15
I934 F6
I935 B10

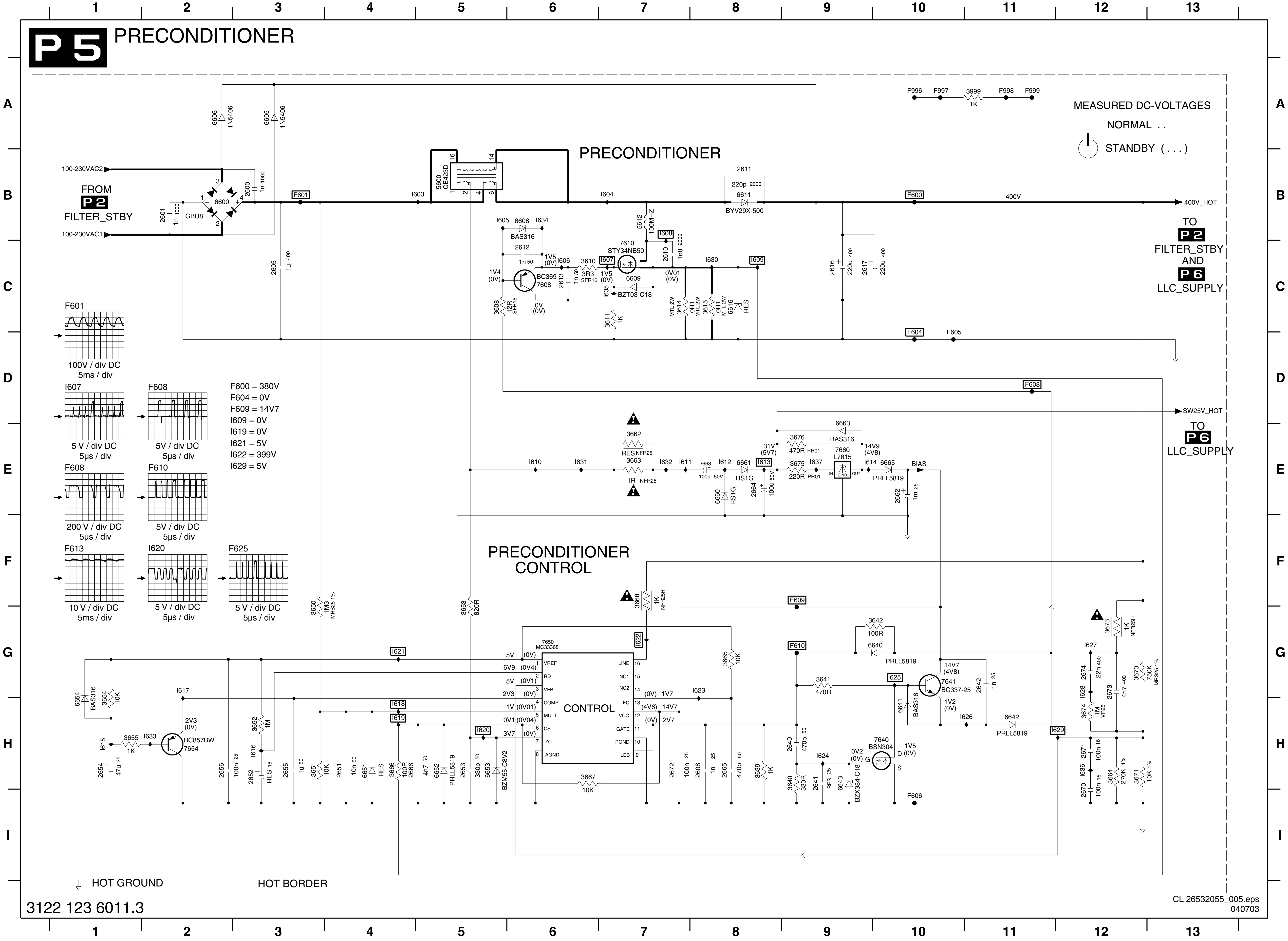

P 3 PROTECTION
TO P 7 AUX_SUPPLY
FROM P 7
FROM P 6 LLC_SUPPLY Vs_unsw 70-90V
FROM P 2 +5V_STBY_SW
VS PROTEC-TION
VA PROTEC-TION
VCC PROTEC-TION
+3V3 PROTEC-TION
2.5 Vref
LATCH
VCEGO
DCPROT
TEMP
TO P 6 LLC_SUPPLY
ERROR LOGGING
7370 PCF8574AT
LP FILTER
INTERRUPT LOGIC
I/O PORTS
BIT 8
SHIFT REGISTER
BUS CONTROL
INPUT FILTER
POWER-ON RESET
VS_PROT
VA_PROT
VCC_PROT
+3V3_PROT
OVERVOLTAGE
TO P 2 P 7 FILTER_STBY
TO 0319 SC 8 CONTROL
TO P 4 FANCONTROL
VSA CONTROL
FROM P 6 P 7
IAK BUFFER
VSK
S_GND
VAK
IAK
VRS
VRA
VCEGO
VSAGO
TO CN7 PDP (DISPLAY)
20FMN-BMT
STANDBY
TO P 7 PROTECTION
+3V3_OVP
8V6 UNDER VOLTAGE PROTECTION
SUPPLY_ON
TO P 2 FILTER_STBY
TO P 7
TO P 6
VSA_CONTROL
IAKS
VRA
VRS
I305 = 0V
I312 = 4V9
I318 = 5V
I331 = 5V
I338 = 5V
I362 = 5V
I363 =4V9
I365 = 4V8
I370 = 4V9
I371 = 5V
I372 = 5V
I373 = 5V
I374 = 5V
I375 = 4V
I376 = 5V
F300 = 9V
F301 = 9V
F302 = 8V6
F304 = 5V
F305 = 3V3
F309 = 3V3
F310 = 0V4
F313 = 2V3
F314 = 2V
F315 = 0V1
F316 = 0V8
F317 = 1V3
F318 = 3V2
F319 = 3V3
F343 = 0V
3122 123 6011.3
CL 26532055_003.eps
070703

Power Supply Panel (FM24 AB): Fan Control


P 4
FANCONTROL
FROM
P 7
AUX_SUPPLY
+12V
FAN_SUPPLY_1
FAN_SUPPLY_2
FROM
P 3
PROTECTION
FAN_SP1
FAN_SP2
I700 = 0V
F700 = 0V
F701 = 0V
I704 = 0V
I705 = 0V
I709 = 0V
2700 470u 16
6700 BZX384-C18
3700 330R
7700 SI9433DY
I701
3703 1K0
I711
I703
3701 2K2
I704
7701 BC847BW
3702 2K2
I700
5703 1m
I710
5704 100MHZ
6703 PRLL5819
2703 470u 16
F700
F701
0389
EH-B
M
FAN OPTIONAL
6706 BZX384-C18
3706 330R
7706 SI9433DY
I706
3709 1K0
I713
I708
3707 2K2
I709
7707 BC847BW
3708 2K2
I705
5709 1m
I712
5710 100MHZ
6709 PRLL5819
2709 470u 16
0390
EH-B
M
FAN OPTIONAL
S
D
G
1704 SHIELDING 3.3
1702 SHIELDING 3.3
1703 SHIELDING 3.3
3122 123 6011.3
CL 26532055_004.eps
040703

0389	B8
0390	D8
1702	I3
1703	I4
1704	I1
2700	B4
2703	C7
2709	E7
3700	B5
3701	C5
3702	C5
3703	B6
3706	D5
3707	E5
3708	E5
3709	E6
5703	B7
5704	B7
5709	D7
5710	D7
6700	B5
6703	C6
6706	D5
6709	E6
7700	B6
7701	C6
7706	D6
7707	E6
F700	B8
F701	B8
I700	B6
I701	B5
I703	C5
I704	C5
I705	D6
I706	D5
I708	E5
I709	E5
I710	B7
I711	C6
I712	D7
I713	E6

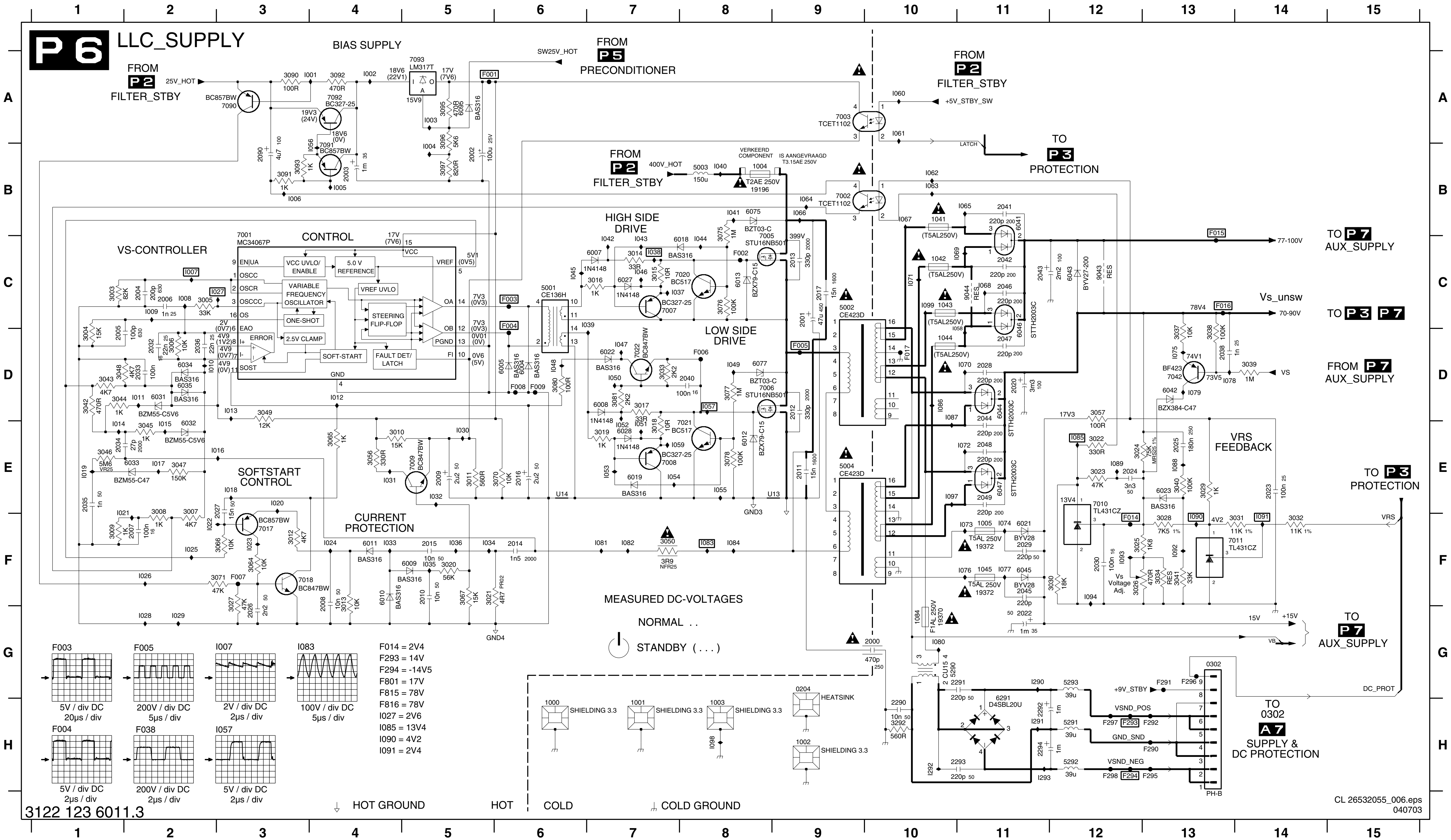
Power Supply Panel (FM24 AB): Pre-Conditioner


P 5
PRECONDITIONER
PRECONDITIONER
PRECONDITIONER CONTROL
MEASURED DC-VOLTAGES
NORMAL . .
STANDBY (. . .)
100-230VAC2
100-230VAC1
FROM P 2 FILTER_STBY
TO P 2 FILTER_STBY AND P 6 LLC_SUPPLY
TO P 6 LLC_SUPPLY
400V_HOT
SW25V_HOT
400V
BIAS
6600 GBU8
6605 1N5406
6606 1N5406
2600 1n 1000
2601 1n 1000
2605 1u 400
5600 CE423D
5612 100MHZ
2611 220p 2000
6611 BYV29X-500
7610 STY34NB50
6609 BZT03-C18
7608 BC369
6608 BAS316
2612 1n 50
3610 3R3 SFR16
3608 12R SFR16
3611 1K
2613 1n 50
2610 1n8 2000
3614 0R1 MTL2W
3615 0R1 MTL2W
6616 RES
2616 220u 400
2617 220u 400
3999 1K
F996 F997 F998 F999
F600 F601 F604 F605 F608 F609 F610 F606
I603 I604 I605 I606 I607 I608 I609 I610 I611 I612 I613 I614 I615 I616 I617 I618 I619 I620 I621 I622 I623 I624 I625 I626 I627 I628 I629 I630 I631 I632 I633 I634 I635 I636 I637
1V5 (0V)
1V4 (0V)
0V (0V)
0V01 (0V)
3662 RES NFR25
3663 1R NFR25
2663 100u 50V
6661 RS1G
6660 RS1G
2664 100u 50V
3676 470R PR01
3675 220R PR01
6663 BAS316
7660 L7815
31V (5V7)
14V9 (4V8)
6665 PRLL5819
2662 1m 25
3650 1M3 MRS25 1%
3653 820R
3668 1K NFR25H
7650 MC33368
CONTROL
VREF RD VFB COMP MULT CS ZC AGND
LINE NC1 NC2 FC VCC GATE PGND LEB
5V (0V)
6V9 (0V4)
5V (0V1)
2V3 (0V)
1V (0V01)
0V1 (0V04)
3V7 (0V)
(0V) 1V7
(4V6) 14V7
(0V) 2V7
3667 10K
3665 10K
3642 100R
6640 PRLL5819
3641 470R
7641 BC337-25
14V7 (4V8)
1V2 (0V)
6641 BAS316
2642 1n 25
6642 PRLL5819
7640 BSN304
0V2 (0V)
1V5 (0V)
G D S
2640 470p 50
3640 330R
2641 RES 25
6643 BZX384-C18
3639 1K
2665 470p 50
2608 1n 25
2672 100n 25
3673 1K NFR25H
2674 22n 400
2673 4n7 400
3670 750K MRS25 1%
3674 1M VR25
2671 100n 16
2670 100n 16
3664 270K 1%
3671 10K 1%
6654 BAS316
3654 10K
2V3 (0V)
7654 BC857BW
3655 1K
2654 47u 25
2656 100n 25
3652 1M
2652 RES 16
2655 1u 50
3651 10K
2651 10n 50
6651 RES
3666 100R
2666 4n7 50
6652 PRLL5819
2653 330p 50
6653 BZM55-C8V2
F601
100V / div DC 5ms / div
I607
5 V / div DC 5µs / div
F608
5V / div DC 5µs / div
F608
200 V / div DC 5µs / div
F610
5V / div DC 5µs / div
F613
10 V / div DC 5ms / div
I620
5 V / div DC 5µs / div
F625
5 V / div DC 5µs / div
F600 = 380V
F604 = 0V
F609 = 14V7
I609 = 0V
I619 = 0V
I621 = 5V
I622 = 399V
I629 = 5V
HOT GROUND
HOT BORDER
3122 123 6011.3
CL 26532055_005.eps
040703
1 2 3 4 5 6 7 8 9 10 11 12 13
A B C D E F G H I

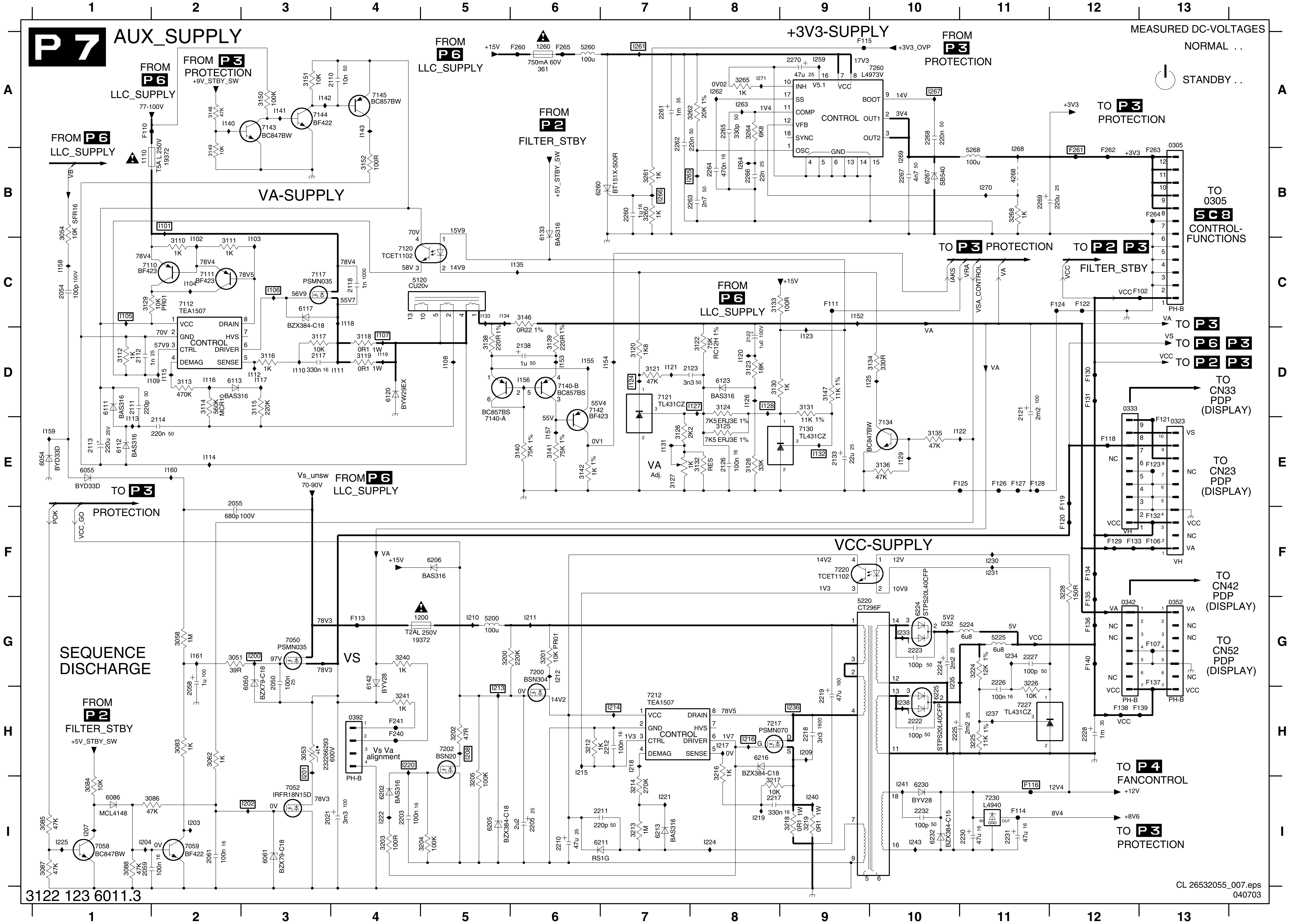
2600	B3
2601	B2
2605	C3
2608	H8
2610	C7
2611	B8
2612	C6
2613	C6
2616	C9
2617	C9
2640	H9
2641	H9
2642	G11
2651	H4
2652	H3
2653	H5
2654	H1
2655	H3
2656	H2
2662	E10
2663	E8
2664	E8
2665	H8
2666	H4
2670	I12
2671	H12
2672	H7
2673	G12
2674	G12
3608	C5
3610	C6
3611	C7
3614	C7
3615	C8
3639	H8
3640	H9
3641	G9
3642	G10
3650	G3
3651	H3
3652	H3
3653	G5
3654	H1
3655	H1
3662	E7
3663	E7
3664	H12
3665	G8
3666	H4
3667	H6
3668	F7
3670	G12
3671	H12
3673	G12
3674	H12
3675	E9
3676	E9
3999	A11
5600	B5
5612	B7
6600	B2
6605	A3
6606	A2
6608	B6
6609	C7
6611	B8
6616	C8
6640	G10
6641	H10
6642	H11
6643	H9
6651	H4
6652	H5
6653	H5
6654	H1
6660	E8
6661	E8
6663	E9
6665	E10
7608	C6
7610	C7
7640	H10
7641	G10
7650	G6
7654	H2
7660	E9
F600	B10
F601	B3
F604	D10
F605	D10
F606	I10
F608	D11
F609	F9
F610	G9
F996	A10
F997	A10
F998	A11
F999	A11
I603	B5
I604	B7
I605	B5
I606	C6
I607	C7
I608	B7
I609	C8
I610	E6
I611	E7
I612	E8
I613	E8
I614	E9
I615	H1
I616	H3
I617	G2
I618	H4
I619	H4
I620	H5
I621	G4
I622	G7
I623	G8
I624	H9
I625	G10
I626	H11
I627	G12
I628	G12
I629	H12
I630	C8
I631	E6
I632	E7
I633	H2
I634	B6
I635	C7
I636	H12
I637	E9

Power Supply Panel (FM24 AB): LLC Supply

U13 E9	1005 F11	2002 B5	2011 E9	2023 E14	2033 D2	2044 D11	2292 H11	3009 F1	3018 E7	3027 F3	3038 D13	3047 E2	3067 F5	3090 A3	5002 C9	6007 C7	6021 F11	6035 D2	6077 D8	7008 E7	7042 D13	F003 C6	F016 C13	F297 H12	I008 C2	I017 E2	I026 F2	I035 F5	I044 C8	I053 E7	I062 B10	I071 C10	I080 G10	I089 E12	I290 G11
U14 E6	1041 B10	2003 B4	2012 D9	2024 E12	2034 E1	2045 F11	2293 H11	3010 E4	3019 E7	3028 F13	3039 D14	3048 D1	3070 E6	3091 B3	5003 B8	6008 D7	6022 D7	6041 B11	6095 A5	7009 E5	7090 A3	F004 C6	F017 D10	F298 H12	I009 C2	I018 E3	I027 C3	I036 F5	I045 C6	I054 E7	I063 B10	I072 E11	I081 F7	I090 F13	I291 H11
0204 G9	1042 C10	2004 C2	2013 C9	2025 E13	2035 E1	2046 C11	2294 H11	3011 E5	3020 F5	3029 E13	3040 E13	3049 D3	3071 F3	3092 A4	5004 E9	6009 F5	6023 E13	6042 D13	6291 H11	7010 E12	7091 B4	F005 D9	F290 H13	I001 A4	I010 D2	I019 E1	I028 G2	I037 C7	I046 C7	I055 E8	I064 B9	I073 F11	I082 F7	I091 F14	I292 H10
0302 G13	1043 C10	2005 D1	2014 F6	2026 G3	2036 D2	2047 D11	3003 C1	3012 F3	3021 F5	3030 F12	3041 F13	3050 F7	3075 B8	3093 B3	5290 G10	6010 F4	6027 C7	6043 C12	7001 C3	7011 F13	7092 A4	F006 D8	F291 G13	I002 A4	I011 D2	I020 E3	I029 G2	I038 C7	I047 D7	I056 B4	I065 B11	I074 F11	I083 F8	I092 F13	I293 H11
1000 H6	1044 D10	2006 C2	2015 F5	2027 E3	2038 D13	2048 E11	3004 D1	3013 F4	3022 E12	3031 F14	3042 D1	3056 E4	3076 C8	3095 A5	5291 H12	6011 F4	6028 E7	6044 D11	7002 B9	7017 F3	7093 A5	F007 F3	F292 H13	I003 A5	I012 D4	I021 E1	I030 E5	I039 C7	I048 D6	I057 D8	I066 B9	I075 D13	I084 F8	I093 F12	
1001 H7	1045 F11	2007 F2	2016 E6	2028 D11	2040 D8	2049 E11	3005 C2	3014 C7	3023 E12	3032 F14	3043 D1	3057 D12	3077 D8	3096 A5	5292 H12	6012 E8	6031 D2	6045 F11	7003 A9	7018 F3	9043 C12	F008 D6	F293 H12	I004 B5	I013 D3	I022 F2	I031 E4	I040 B8	I049 D8	I058 C11	I067 B10	I076 F11	I085 E12	I094 F12	
1002 H9	1084 G10	2008 F4	2017 C9	2029 F11	2041 B11	2090 B3	3006 D2	3015 C7	3024 E12	3033 D7	3044 D1	3064 F3	3078 E8	3097 B5	5293 G12	6013 C8	6032 E2	6046 D11	7005 C8	7020 C8	9044 C11	F009 D6	F294 H12	I005 B4	I014 E1	I023 F3	I032 E5	I041 B8	I050 D7	I059 E7	I068 C11	I077 F11	I086 D10	I097 E10	
1003 H8	2000 G10	2009 E5	2020 D11	2030 F12	2042 C11	2290 H10	3007 F2	3016 C7	3025 F12	3034 F13	3045 E2	3065 E4	3080 D6	3292 H10	6004 D6	6018 C8	6033 E2	6047 E11	7006 D8	7021 E8	F001 A5	F014 F12	F295 H13	I006 B3	I015 E2	I024 F4	I033 F4	I042 C7	I051 E7	I060 A10	I069 C10	I078 D13	I087 D10	I098 H8	
1004 B8	2001 C9	2010 F5	2022 G11	2032 D2	2043 C11	2291 G11	3008 F2	3017 D7	3026 F12	3037 D13	3046 E1	3066 F3	3081 D7	5001 C6	6005 D6	6019 E7	6034 D2	6075 B8	7007 C7	7022 D7	F002 C8	F015 B13	F296 G13	I007 C2	I016 E3	I025 F2	I034 F5	I043 C7	I052 E7	I061 A10	I070 D11	I079 D13	I088 E13	I099 C10	


P6 LLC_SUPPLY
FROM P2 FILTER_STBY
25V_HOT
BIAS SUPPLY
SW25V_HOT
FROM P5 PRECONDITIONER
FROM P2 FILTER_STBY
+5V_STBY_SW
LATCH
TO P3 PROTECTION
400V_HOT
VERKEERD COMPONENT
IS AANGEVRAAGD T3.15AE 250V
T2AE 250V 19196
VS-CONTROLLER
CONTROL
7001 MC34067P
VCC UVLO/ ENABLE
5.0 V REFERENCE
VARIABLE FREQUENCY OSCILLATOR
VREF UVLO
ONE-SHOT
STEERING FLIP-FLOP
ERROR
2.5V CLAMP
SOFT-START
FAULT DET/ LATCH
GND
HIGH SIDE DRIVE
LOW SIDE DRIVE
STU16NB501
5002 CE423D
5004 CE423D
TO P7 AUX_SUPPLY
77-100V
Vs_unsw
TO P3 P7
70-90V
FROM P7 AUX_SUPPLY
VS
VRS FEEDBACK
TO P3 PROTECTION
VRS
7010 TL431CZ
7011 TL431CZ
Vs Voltage Adj.
15V
+15V
TO P7 AUX_SUPPLY
SOFTSTART CONTROL
CURRENT PROTECTION
MEASURED DC-VOLTAGES
NORMAL . .
STANDBY (. . .)
F003 5V / div DC 20µs / div
F005 200V / div DC 5µs / div
I007 2V / div DC 2µs / div
I083 100V / div DC 5µs / div
F004 5V / div DC 2µs / div
F038 200V / div DC 2µs / div
I057 5V / div DC 2µs / div
F014 = 2V4
F293 = 14V
F294 = -14V5
F801 = 17V
F815 = 78V
F816 = 78V
I027 = 2V6
I085 = 13V4
I090 = 4V2
I091 = 2V4
SHIELDING 3.3
HEATSINK
6291 D4SBL20U
+9V_STBY
VSND_POS
GND_SND
VSND_NEG
DC_PROT
TO 0302 A7 SUPPLY & DC PROTECTION
HOT GROUND
HOT
COLD
COLD GROUND
3122 123 6011.3
CL 26532055_006.eps 040703

Power Supply Panel (FM24 AB): Aux Supply


P 7
AUX_SUPPLY
VA-SUPPLY
+3V3-SUPPLY
VCC-SUPPLY
SEQUENCE DISCHARGE
MEASURED DC-VOLTAGES
NORMAL . .
STANDBY . .
FROM P 6 LLC_SUPPLY
FROM P 3 PROTECTION
FROM P 2 FILTER_STBY
TO P 3 PROTECTION
TO P 2 P 3 FILTER_STBY
TO 0305 SC 8 CONTROL-FUNCTIONS
TO CN33 PDP (DISPLAY)
TO CN23 PDP (DISPLAY)
TO CN42 PDP (DISPLAY)
TO CN52 PDP (DISPLAY)
TO P 4 FANCONTROL
7112 TEA1507
7212 TEA1507
7260 L4973V
7120 TCET1102
7220 TCET1102
5220 CT296F
7230 L4940
Vs Va alignment
3122 123 6011.3
CL 26532055_007.eps
040703
1 2 3 4 5 6 7 8 9 10 11 12 13
A B C D E F G H I

0305	A13
0323	E13
0333	D12
0342	G12
0352	G13
0392	H4
1110	B1
1200	G5
1260	A6
2021	I3
2050	G3
2054	C1
2055	E2
2058	H2
2059	I1
2061	I2
2110	A4
2111	D1
2112	D1
2113	E1
2114	E2
2117	D3
2118	C4
2121	D11
2122	D8
2123	D8
2126	E8
2133	E9
2138	D6
2203	I4
2205	I6
2210	I6
2211	I7
2212	H7
2217	I8
2218	H9
2219	H9
2222	H10
2223	G10
2224	G10
2225	H10
2226	G11
2227	G11
2228	H12
2230	I11
2231	I11
2232	I10
2260	B7
2261	A7
2262	A7
2263	B8
2264	B8
2265	A8
2266	B8
2267	B10
2268	A10
2269	B11
2270	A9
3051	G2
3053	H3
3054	B1
3058	G2
3062	H2
3083	H2
3084	I1
3085	I1
3086	I2
3087	I1
3088	I1
3110	C2
3111	C2
3112	D1
3113	D2
3114	D2
3115	D3
3116	D3
3117	D3
3118	D4
3119	D4
3120	D7
3121	D7
3122	D8
3123	D8
3124	D8
3125	E8
3126	E7
3127	E7
3128	E8
3129	C1
3130	D8
3131	D9
3132	E8
3133	C8
3134	D10
3135	E10
3136	E10
3138	D5
3139	D6
3140	E6
3141	E6
3142	E6
3146	C6
3147	D9
3148	A2
3149	B2
3150	A3
3151	A3
3152	B4
3200	G5
3201	G6
3202	H5
3203	I4
3204	I5
3205	I5
3212	H6
3213	I7
3214	I7
3216	H8
3217	I8
3218	I9
3219	I9
3224	G11
3225	H11
3226	G11
3228	F12
3240	G4
3241	H4
3260	B7
3261	B7
3262	A8
3264	A8
3265	A8
3268	B11
4268	B11
5120	C5
5200	G5
5220	G9
5224	G11
5225	G11
5260	A6
5268	B11
6050	G3
6054	E1
6055	E1
6061	I3
6086	I1
6111	D1
6112	E1
6113	D2
6117	C3
6120	D4
6123	D8
6133	B6
6142	G4
6202	I4
6205	I5
6206	F5
6211	I7
6213	I7
6216	H8
6224	G10
6225	H10
6230	I10
6232	I10
6260	B6
6267	B10
7050	G3
7052	I3
7058	I1
7059	I2
7110	C2
7111	C2
7112	C2
7117	C3
7120	C4
7121	D7
7130	E9
7134	E10
7140-A	D5
7140-B	D6
7142	D6
7143	A3
7144	A3
7145	A4
7200	G6
7202	H5
7212	H7
7217	H8
7220	F9
7227	H11
7230	I11
7260	A10
F102	C13
F106	F13
F107	G13
F110	A1
F111	C9
F113	G4
F114	I11
F115	A9
F116	I11
F118	E12
F119	E12
F120	F12
F121	E13
F122	C12
F123	E13
F124	C12
F125	E11
F126	E11
F127	E11
F128	E11
F129	F12
F130	D12
F131	D12
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F135	G12
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F137	G13
F138	H12
F139	H13
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F240	H4
F241	H4
F260	A6
F261	B12
F262	B12
F263	B13
F264	B13
F265	A6
I101	B2
I102	C2
I103	C3
I104	C2
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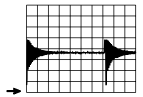
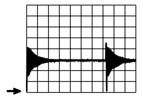
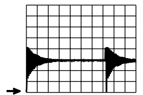
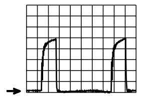
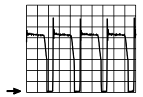
I114	E2
I115	D2
I116	D2
I117	D3
I118	C4
I119	D4
I120	D8
I121	D7
I122	E11
I123	D9
I124	D7
I125	D9
I126	D8
I127	D8
I128	D8
I129	E10
I131	E7
I132	E9
I133	C5
I134	C5
I135	C6
I140	A2
I141	A3
I142	A3
I143	A4
I152	C9
I153	D6
I154	D7
I155	D6
I156	D6
I157	E6
I158	C1
I159	E1
I160	E2
I161	G2
I200	G3
I201	H3
I202	I3
I203	I2
I204	I1
I207	I1
I208	H5
I209	H9
I210	G5
I211	G6
I212	G6
I213	H5
I214	H7
I215	H6
I216	H8
I217	H8
I218	H7
I219	I8
I220	H4
I221	I7
I222	I4
I224	I8
I225	I1
I230	F11
I231	F11
I232	G10
I233	G10
I234	G11
I235	G10
I236	H9
I237	H11
I238	H10
I240	I9
I241	I10
I243	I10
I259	A9
I261	A7
I262	A8
I263	A8
I264	B8
I265	B7
I266	B7
I267	A10
I268	B11
I269	B10
I270	B11
I271	A8

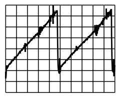
I105

20V / div DC
20µs / div

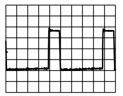
I106

20V / div DC
20µs / div

I107

20V / div DC
20µs / div

I216

2V / div DC
2µs / div

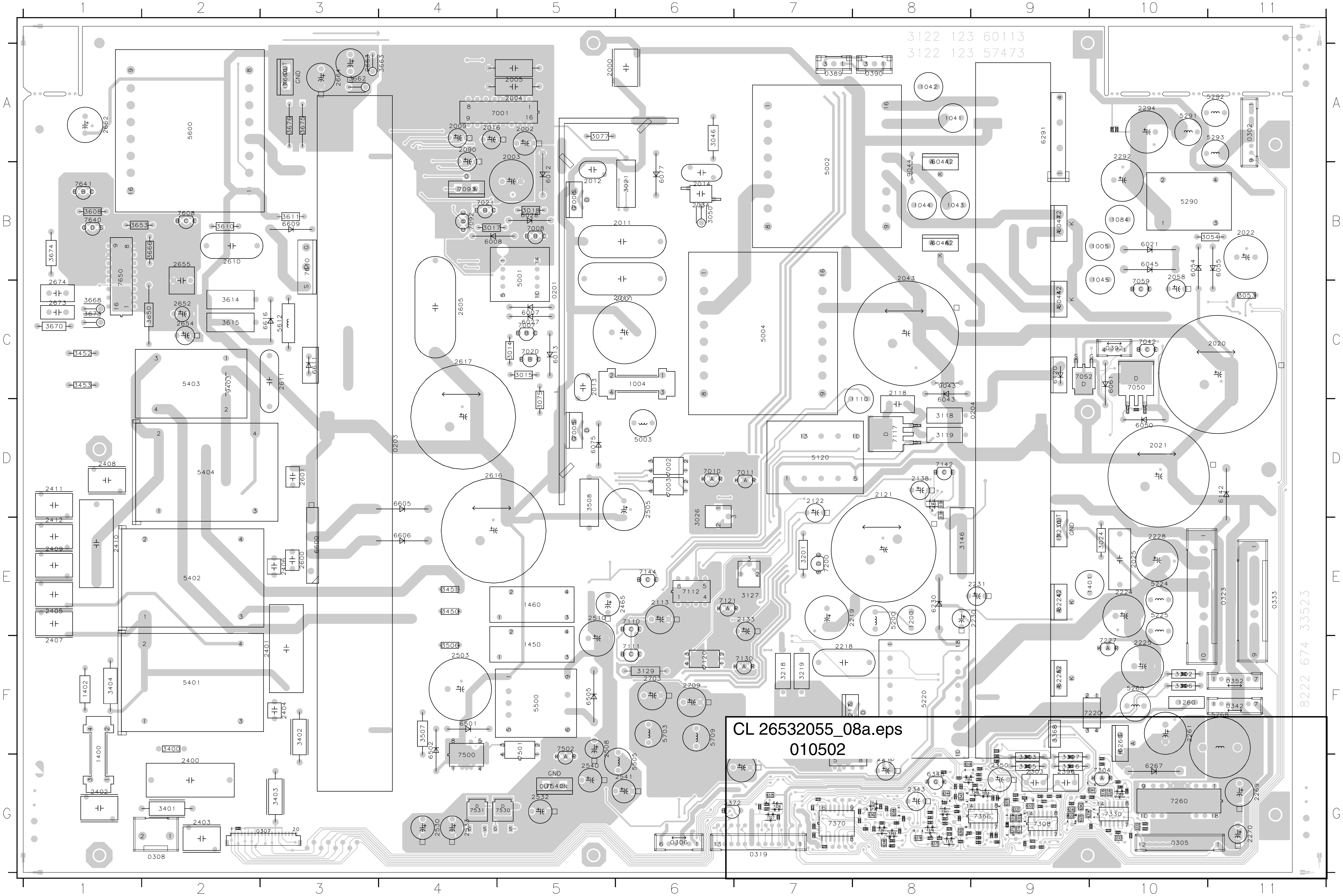
I236

20V / div DC
5µs / div

I265

500 mV / div DC
2µs / div

I267

5 V / div DC
2µs / div

F116 = 12V4
F261 = 3V3
I101 = 76V
I124 = 10V6
I127 = 2V8
I128 = 3V9
I132 = 2V6
I200 = 97V
I201 = 78V3
I202 = 0V
I208 = 0V
I213 = 0V
I214 = 14V2
I220 = 9V
I261 = 17V3
I266 = 0V

Layout Power Supply Panel (FM24 AB) (Top Side)

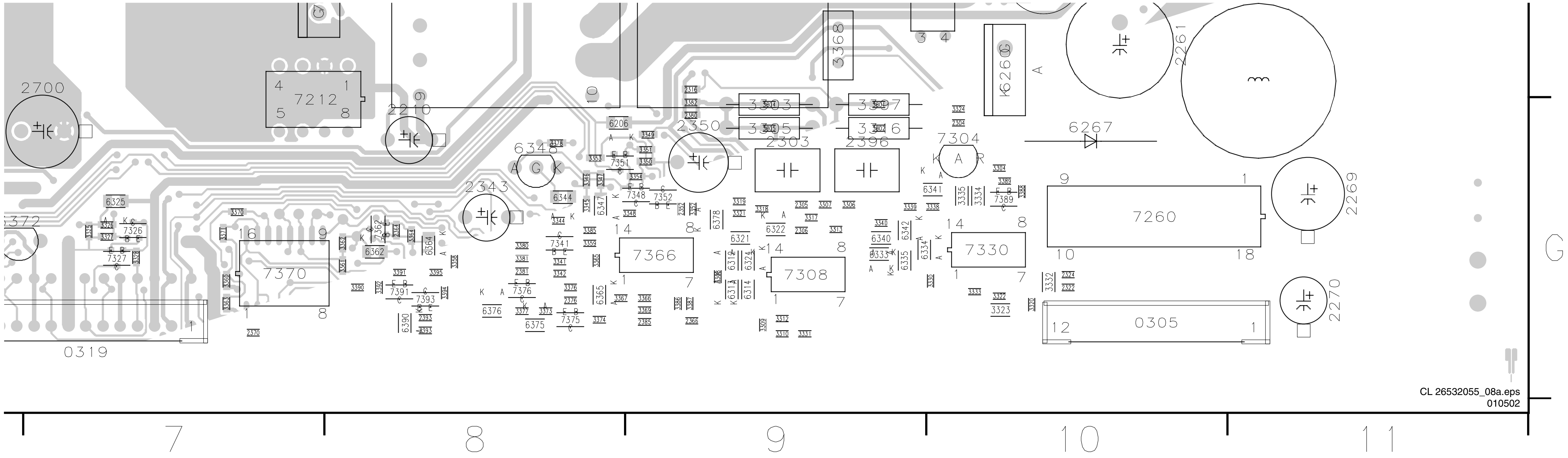

1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
3122 123 60113
3122 123 57473
8222 674 33523
CL 26532055_08a.eps
010502
5600
5002
5004
2043
2020
2021
2121
2616
2617
5401
5402
5403
5404
7260
7370

3122 123 6011.3

CL 26532055_008.eps
240603

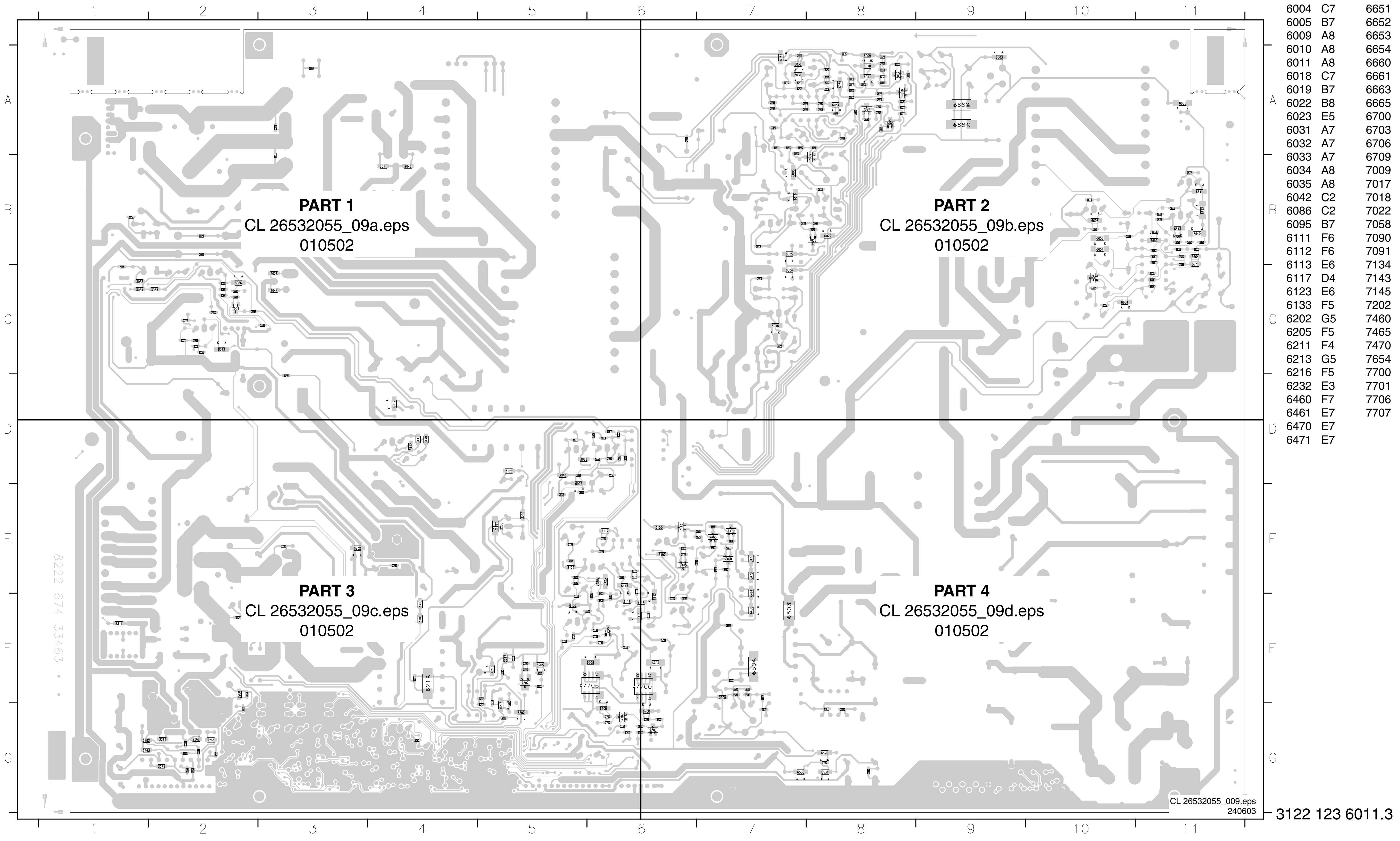
Layout Power Supply Panel (FM24 AB) (Part 1 Top Side)

0201	C5	2001	C6	2230	E9	2406	E3	2703	F6	3309	G9	3349	G9	3389	G10	3673	C1	5612	C3	6314	G9	7005	D5	7326	G7
0203	D4	2002	A5	2231	E9	2407	F1	2709	F6	3310	G9	3350	G9	3390	G8	3674	B1	5703	F6	6321	G9	7006	B5	7327	G7
0204	D9	2003	A5	2261	F10	2408	D1	3014	C5	3312	G9	3351	G9	3391	G8	3675	A3	5709	F6	6322	G9	7007	C5	7330	G10
0302	A11	2004	A5	2269	G11	2409	E1	3015	C5	3313	G9	3352	G9	3392	G8	3676	A3	6007	C5	6324	G9	7008	B5	7341	G8
0305	G10	2005	A5	2270	G11	2410	E1	3017	B4	3316	G9	3353	G8	3393	G8	3800	F10	6008	B4	6325	G7	7010	D6	7348	G9
0306	G6	2009	A4	2290	A10	2411	D1	3018	B5	3317	G9	3354	G9	3394	G8	3801	G9	6012	B5	6333	G9	7011	D7	7351	G8
0307	G3	2011	B6	2292	A10	2412	E1	3021	B6	3318	G9	3358	G8	3395	G8	3802	G9	6013	C5	6334	G9	7020	C5	7352	G9
0308	G2	2012	B5	2294	A10	2465	E6	3024	E10	3319	G9	3359	G8	3396	F10	3803	F10	6021	B10	6335	G9	7021	B4	7362	G8
0319	G7	2013	C5	2303	G9	2503	F4	3026	E6	3320	G10	3360	G7	3397	G9	3804	G9	6027	C5	6340	G9	7042	C10	7366	G9
0323	E11	2014	B6	2304	G10	2505	D6	3046	A6	3321	G9	3361	G8	3400	F2	3805	G9	6028	B5	6341	G10	7050	C10	7370	G7
0333	E11	2016	A4	2305	G9	2508	F5	3050	B6	3322	G10	3362	G8	3401	G2	4300	G2	6041	B8	6342	G9	7052	C9	7375	G8
0342	F11	2017	C6	2306	G9	2510	E5	3053	C11	3323	G10	3363	G7	3402	F3	5001	B5	6043	D8	6344	G8	7059	C10	7376	G8
0352	F11	2020	C11	2316	F9	2530	G4	3054	B11	3324	G10	3364	G8	3403	G3	5002	B7	6044	C9	6347	G8	7092	B4	7389	G10
0389	A7	2021	D10	2322	G10	2532	G5	3075	D5	3325	G7	3365	G8	3404	F1	5003	D6	6045	B10	6348	G8	7093	B4	7391	G8
0390	A8	2022	B11	2324	G10	2533	G4	3077	A5	3326	G7	3366	G9	3450	E4	5004	C7	6046	B8	6362	G8	7110	E6	7393	G8
0392	C10	2025	E10	2343	G8	2540	G5	3118	D8	3327	G7	3367	G8	3451	E4	5120	D7	6047	B9	6364	G8	7111	F6	7500	G4
1004	C6	2034	B6	2350	G9	2541	G6	3119	D8	3328	G7	3368	F9	3452	C1	5200	E8	6050	D10	6365	G8	7112	E6	7501	F5
1005	B10	2043	B8	2352	G9	2600	E3	3127	E7	3330	G10	3369	G9	3453	C1	5220	F8	6054	B10	6375	G8	7117	D8	7502	F5
1041	A8	2050	D10	2364	G8	2601	D3	3129	F6	3331	G9	3370	G7	3506	F4	5224	E10	6055	B11	6376	G8	7120	F6	7530	G5
1042	A8	2058	B10	2366	G9	2605	C4	3138	D8	3332	G10	3371	G7	3507	F4	5225	E10	6061	C10	6378	G9	7121	E6	7531	G4
1043	B8	2090	A4	2370	G7	2610	B2	3139	D8	3333	G10	3372	G6	3508	D5	5260	F10	6075	D5	6390	G8	7130	F7	7540	G5
1044	B8	2113	E6	2376	G8	2611	C3	3146	E8	3334	G10	3373	G8	3608	B1	5268	F11	6077	B6	6501	F4	7140	D8	7608	B2
1045	B10	2118	C8	2380	G9	2616	D4	3201	E7	3335	G10	3374	G8	3610	B2	5290	B10	6120	C9	6502	F4	7142	D8	7610	B3
1084	B10	2121	D8	2381	G8	2617	C4	3218	F7	3338	G10	3376	G8	3611	B3	5291	A10	6142	D11	6505	F5	7144	E6	7640	B1
1110	D8	2122	D7	2385	G9	2652	C2	3219	F7	3339	G9	3377	G8	3614	C2	5292	A11	6206	G8	6600	E3	7200	E7	7641	B1
1200	E8	2133	E7	2393	G8	2654	C2	3292	A10	3340	G9	3378	G8	3615	C2	5293	A11	6224	E9	6605	D4	7212	G7	7650	B1
1260	F10	2138	D8	2396	G9	2655	B2	3302	F10	3341	G8	3380	G8	3650	C2	5401	F2	6225	F9	6606	E4	7217	F7	7660	A3
1400	G1	2210	G8	2400	G2	2662	A1	3303	G9	3342	G8	3381	G8	3653	B1	5402	E2	6230	E8	6609	B3	7220	F10	9043	C8
1401	E10	2218	F7	2401	F3	2663	A3	3304	G10	3344	G8	3382	G9	3662	A3	5403	C2	6260	F10	6611	C3	7227	F10	9044	B8
1402	F1	2219	E7	2402	G1	2664	A3	3305	G9	3345	G8	3385	G8	3663	A4	5404	D2	6267	G10	6616	C3	7230	E9	9403	C2
1450	F5	2224	E10	2403	G2	2673	C1	3306	G9	3346	G8	3386	G9	3666	B2	5500	F5	6291	A9	7001	A5	7260	G10		
1460	E5	2225	F10	2404	F3	2674	C1	3307	G9	3347	G8	3387	G9	3668	C1	5505	G6	6312	G9	7002	D6	7304	G10		
2000	A5	2228	E10	2405	E1	2700	F7	3308	G9	3348	G9	3388	G10	3670	C1	5600	A2	6313	G9	7003	D6	7308	G9		

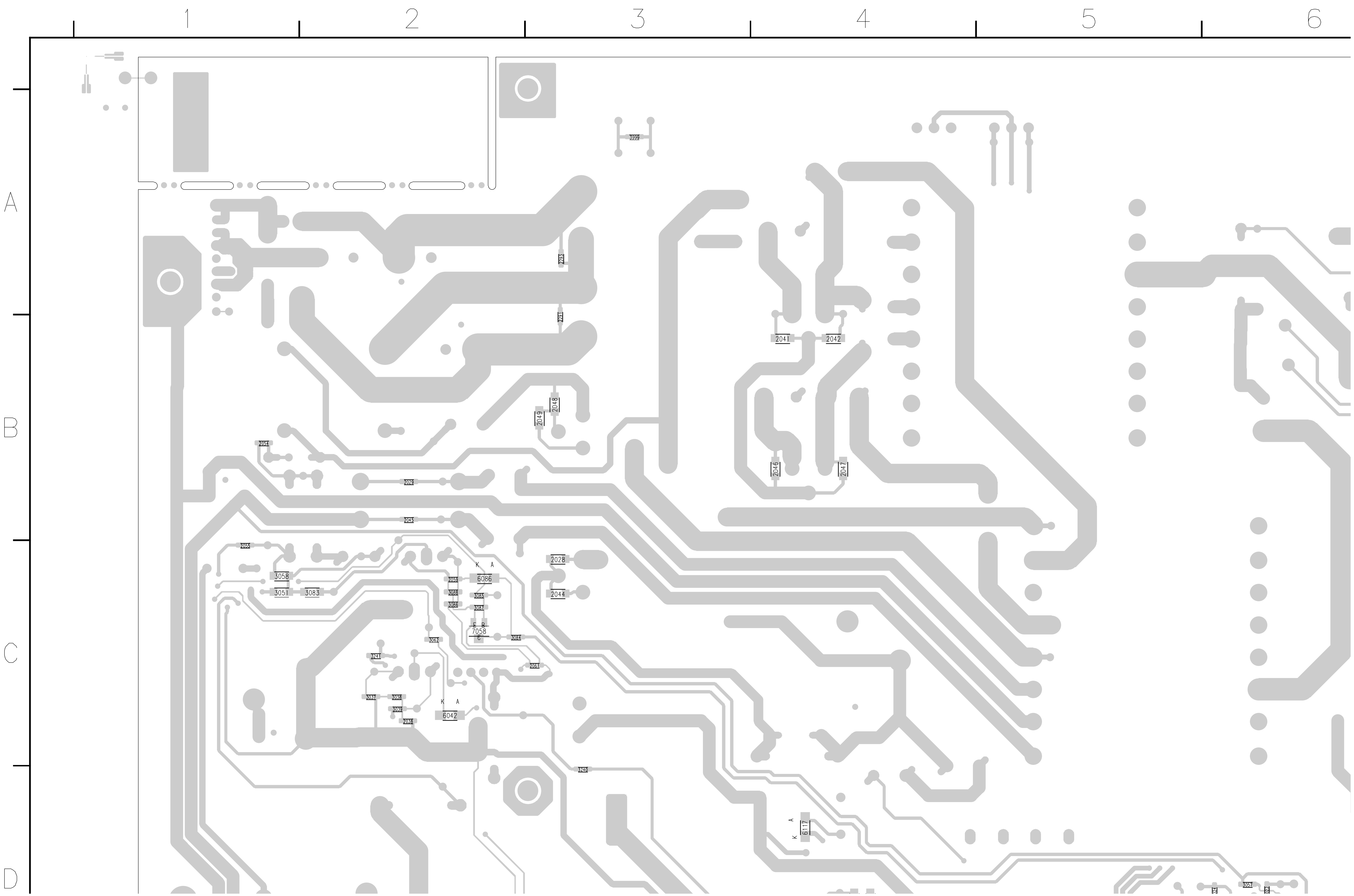


Layout Power Supply Panel (FM24 AB) (Overview Bottom Side)

2006	A7
2007	A8
2008	A8
2010	A8
2015	A8
2023	D6
2024	D6
2026	A8
2027	A8
2028	C3
2029	B2
2030	D6
2032	A8
2033	A8
2035	A6
2036	A8
2038	C2
2040	B8
2041	B4
2042	B4
2044	C3
2045	B2
2046	B4
2047	B4
2048	B3
2049	B3
2054	B1
2055	C1
2059	C2
2061	C3
2110	E6
2111	F6
2112	E6
2114	F6
2117	E6
2123	F6
2126	F6
2203	F5
2205	E5
2211	F4
2212	F5
2217	F5
2222	F3
2223	E3
2226	F2
2227	F2
2232	E4
2260	F2
2262	G2
2263	G1
2264	G2
2265	G2
2266	G2
2267	G2
2268	G2
2291	B3
2293	A3
2504	G8
2507	F7
2509	F7
2511	F7
2512	F7
2513	G8
2608	B11
2612	B10
2613	B10
2640	B11
2641	B11
2642	B11
2651	B11
2653	B11
2656	C11
2665	C11
2666	B10
2670	B11
2671	B11
2672	B11
3003	A7
3004	A7
3005	A7
3006	A8
3007	A8
3008	A8
3009	A8
3010	A8
3011	A8
3012	A8
3013	A8
3016	C7
3019	B7
3020	A8
3022	D6
3023	D6
3025	E5
3027	A8
3028	D5
3029	D6
3030	D6
3031	D5
3032	E5
3033	B7
3034	D6
3037	C2
3038	C2
3039	C2
3040	D5
3041	D5
3042	A7
3043	A8
3044	A7
3045	A7
3047	A7
3048	A8
3049	A8
3051	C1
3056	A7
3057	D6
3058	C1
3062	C2
3064	A8
3065	A8
3066	A8
3067	A8
3070	A7
3071	A8
3076	C7
3078	B8
3080	A8
3081	B8
3083	C2
3084	C2
3085	C2
3086	C2
3087	C2
3088	C2
3090	A8
3091	A8
3092	A8
3093	A8
3095	A7
3096	A7
3097	A7
3110	F6
3111	F6
3112	E6
3113	E6
3114	F6
3115	E6
3116	E6
3117	E6
3120	F6
3121	F6
3122	E5
3123	D5
3124	E5
3125	E5
3126	E5
3128	E6
3130	F6
3131	F5
3132	E5
3133	F5
3134	F6
3135	F6
3136	F6
3140	D4
3141	D4
3142	D4
3147	F5
3148	E7
3149	E7
3150	E6
3151	E6
3152	E6
3200	E5
3202	F5
3203	G5
3204	F5
3205	F5
3212	G5
3213	G5
3214	F5
3216	F5
3217	F5
3224	F2
3225	F2
3226	F2
3228	F3
3240	D3
3241	C2
3260	F2
3261	G2
3262	G1
3264	G2
3265	G2
3268	G2
3300	F4
3301	F4
3311	F1
3343	G4
3460	E7
3461	E7
3463	E7
3465	E6
3467	E7
3469	E7
3470	E7
3501	G7
3502	F7
3503	F7
3504	F7
3505	F7
3520	G8
3530	G8
3639	B11
3640	B11
3641	B11
3642	B11
3651	B11
3652	C11
3654	C10
3655	C10
3664	B11
3665	C11
3667	B11
3671	B11
3700	G6
3701	G6
3702	G6
3703	G6
3706	G6
3707	G6
3708	G6
3709	G6
3999	A3
4268	G2
5704	F6
5710	F6
6004	C7
6005	B7
6009	A8
6010	A8
6011	A8
6018	C7
6019	B7
6022	B8
6023	E5
6031	A7
6032	A7
6033	A7
6034	A8
6035	A8
6042	C2
6086	C2
6095	B7
6111	F6
6112	F6
6113	E6
6117	D4
6123	E6
6133	F5
6202	G5
6205	F5
6211	F4
6213	G5
6216	F5
6232	E3
6460	F7
6461	E7
6470	E7
6471	E7
6503	F7
6504	F7
6510	F9
6511	F9
6512	F9
6513	F9
6520	G8
6530	G7
6531	G8
6608	B10
6640	B11
6641	B11
6642	B11
6643	B11
6651	B10
6652	B10
6653	B11
6654	C10
6660	A9
6661	A9
6663	A9
6665	A11
6700	G6
6703	F6
6706	G6
6709	F6
7009	B8
7017	A8
7018	A8
7022	B8
7058	C2
7090	A8
7091	A8
7134	F6
7143	E6
7145	E6
7202	F5
7460	E7
7465	E7
7470	E7
7654	C10
7700	F6
7701	G6
7706	F6
7707	G6

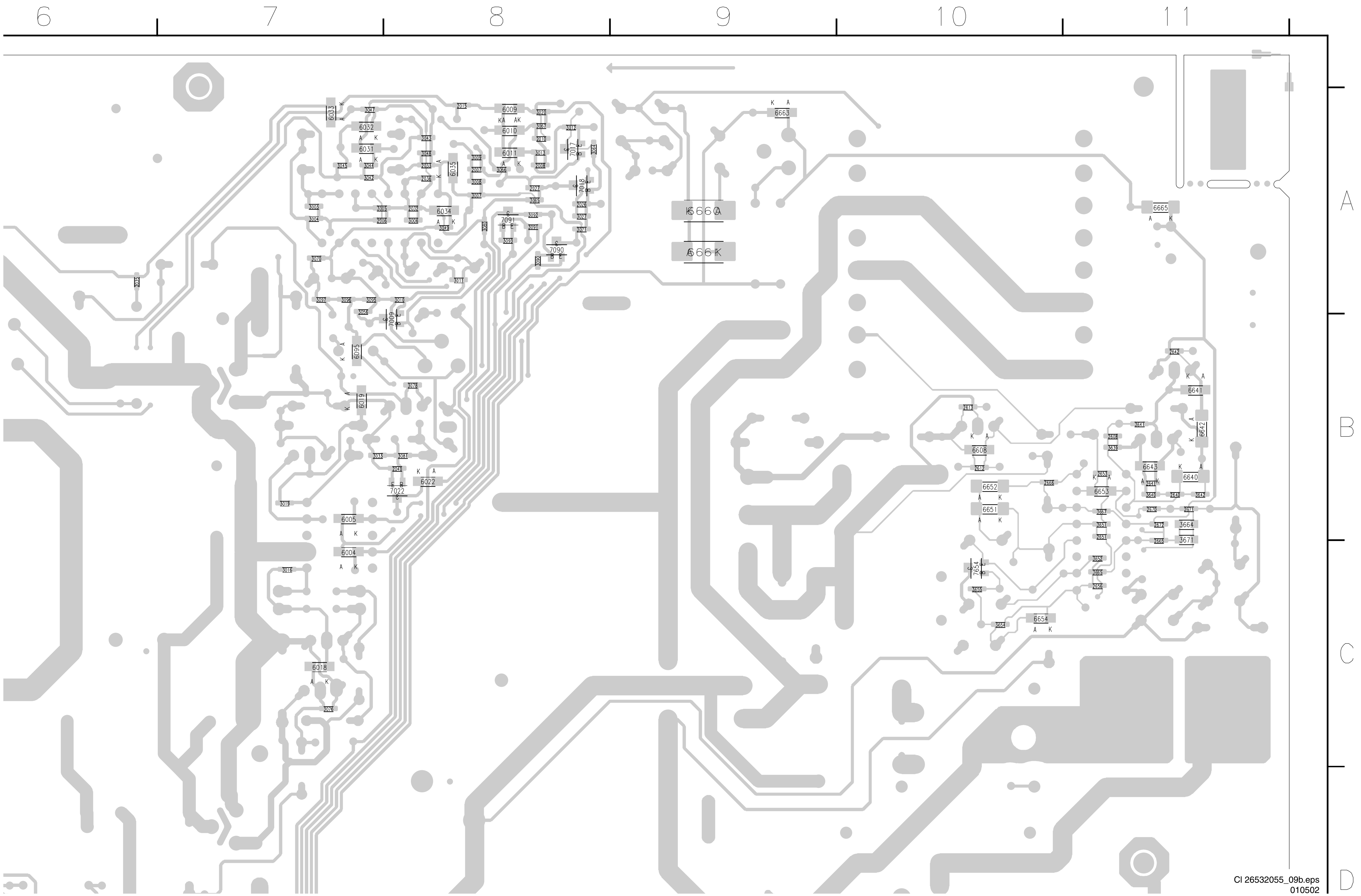


Layout Power Supply Panel (FM24 AB) (Part 1 Bottom Side)


1
2
3
4
5
6
A
B
C
D
2041
2042
2046
2047
2048
2049
2028
2044
3058
3051
3083
K
A
6086
E
B
7058
C
K
A
6042
A
K
6117

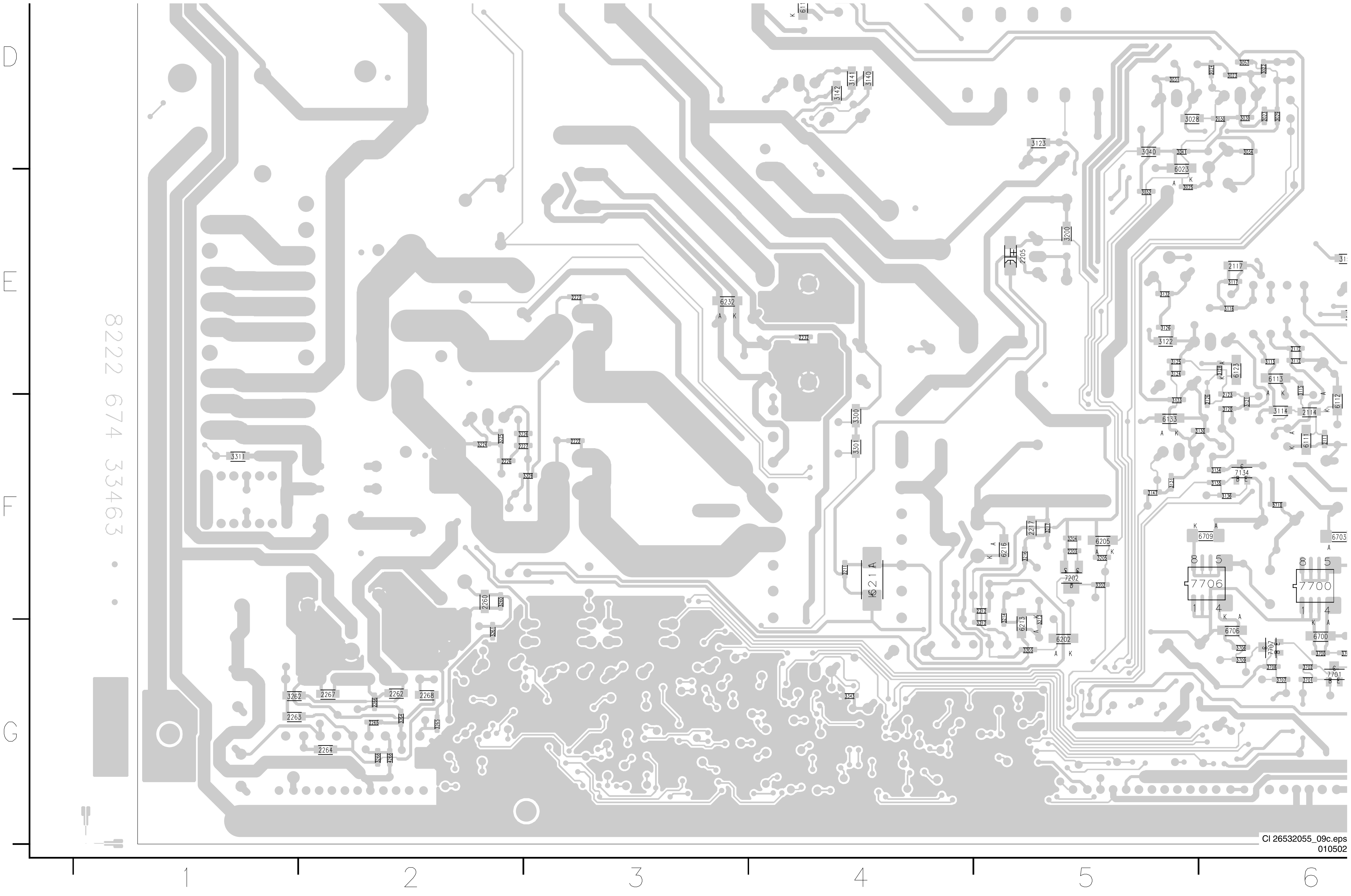
CI 26532055_09a.eps
010502

Layout Power Supply Panel (FM24 AB) (Part 2 Bottom Side)

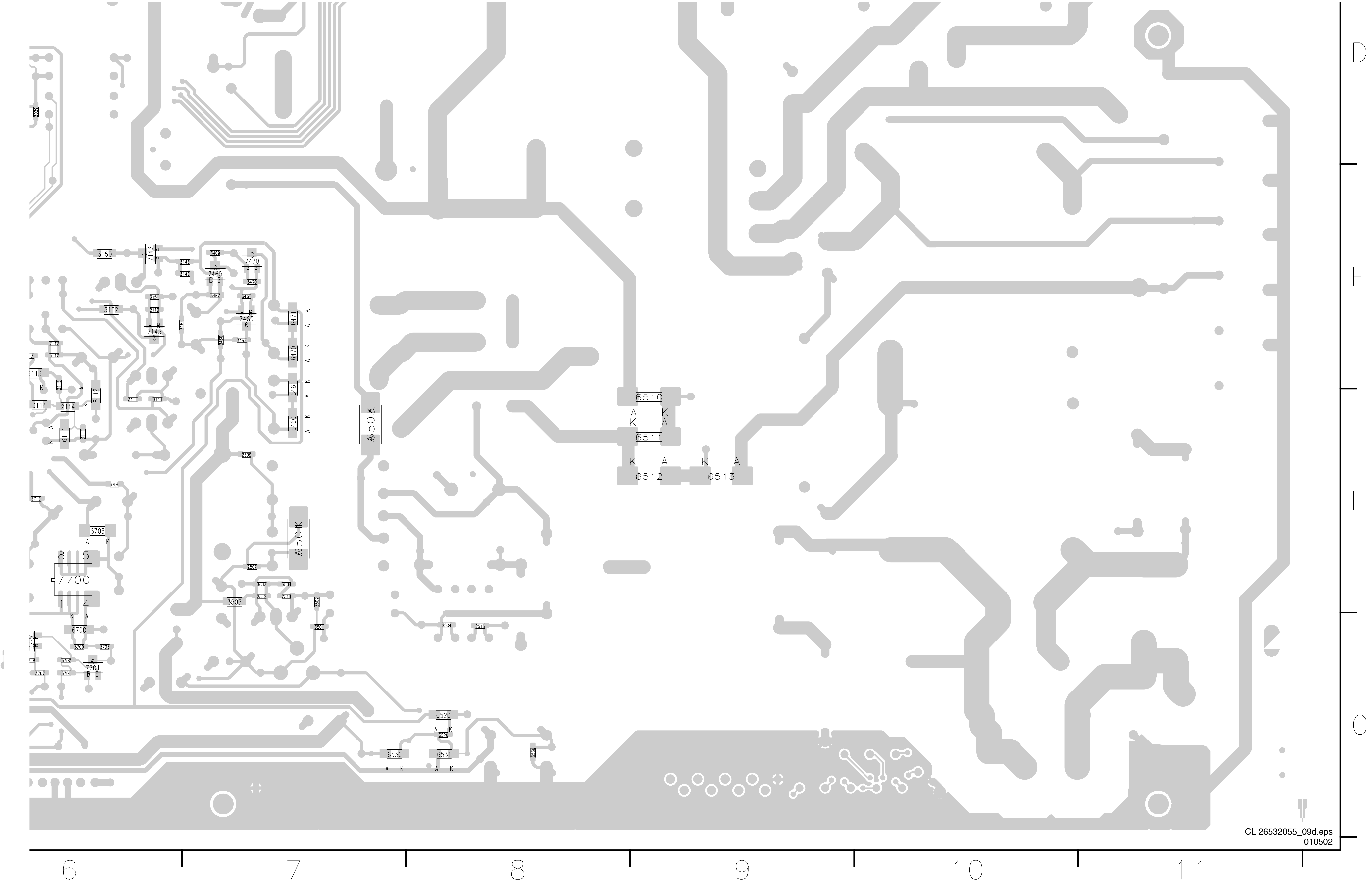

6
7
8
9
10
11
A
B
C
D
6033
6032
6031
6009
6010
6011
6035
6034
7017
7018
7091
7090
6663
6665
7009
6095
6019
6022
7022
6005
6004
6018
6641
6642
6608
6643
6640
6652
6653
6651
3664
3671
7654
6654

CI 26532055_09b.eps
010502

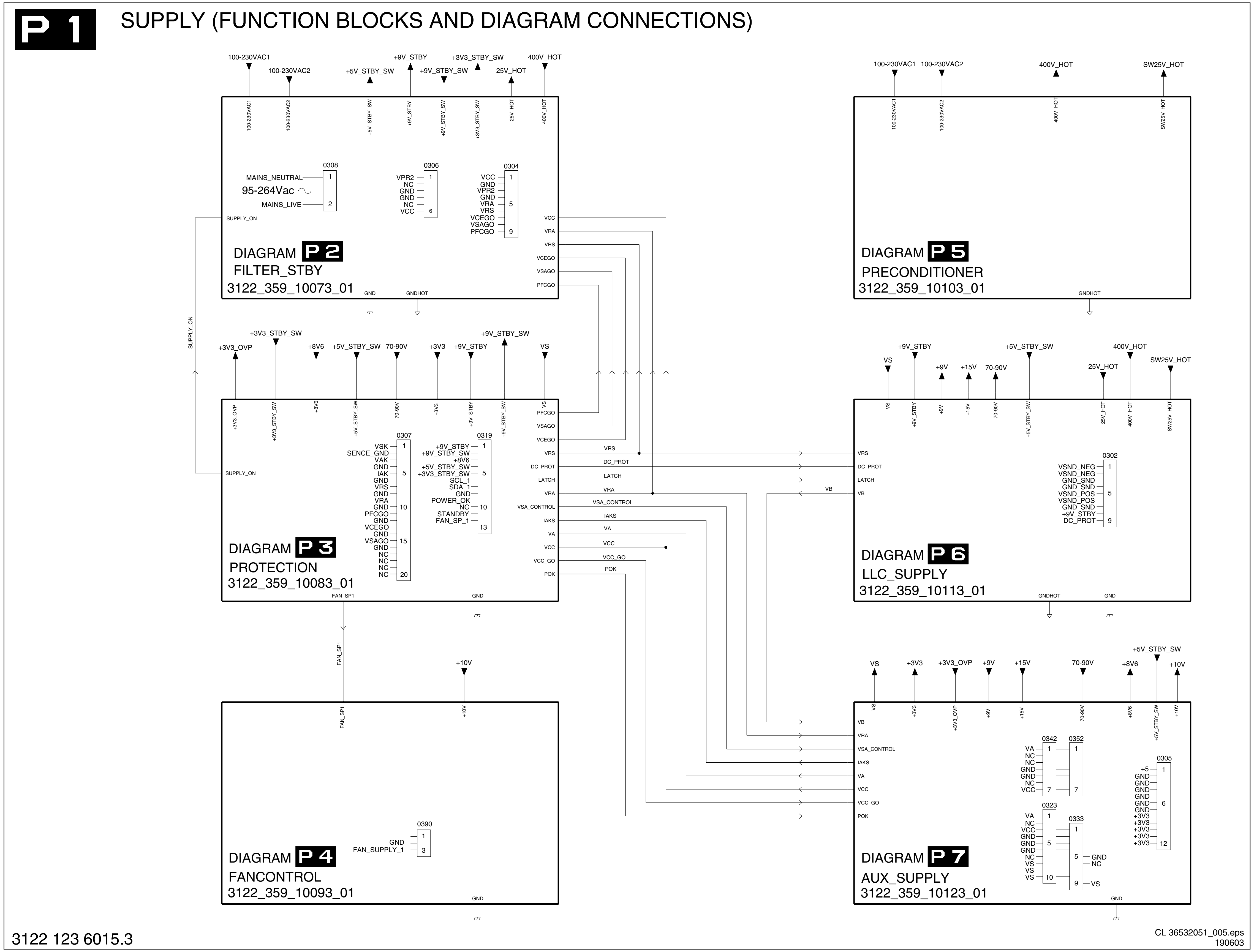
Layout Power Supply Panel (FM24 AB) (Part 3 Bottom Side)


D
E
F
G
1
2
3
4
5
6
8222 674 33463
3311
3262
2267
2262
2268
2263
2264
2260
6232
3300
3301
6213
6202
6205
7202
2217
6216
3123
3200
2205
3040
6023
3028
3122
6133
6123
6113
3114
2114
6112
6111
7134
6709
6703
7706
7700
6706
6700
7701
3141
3140
3142
2117
CI 26532055_09c.eps
010502

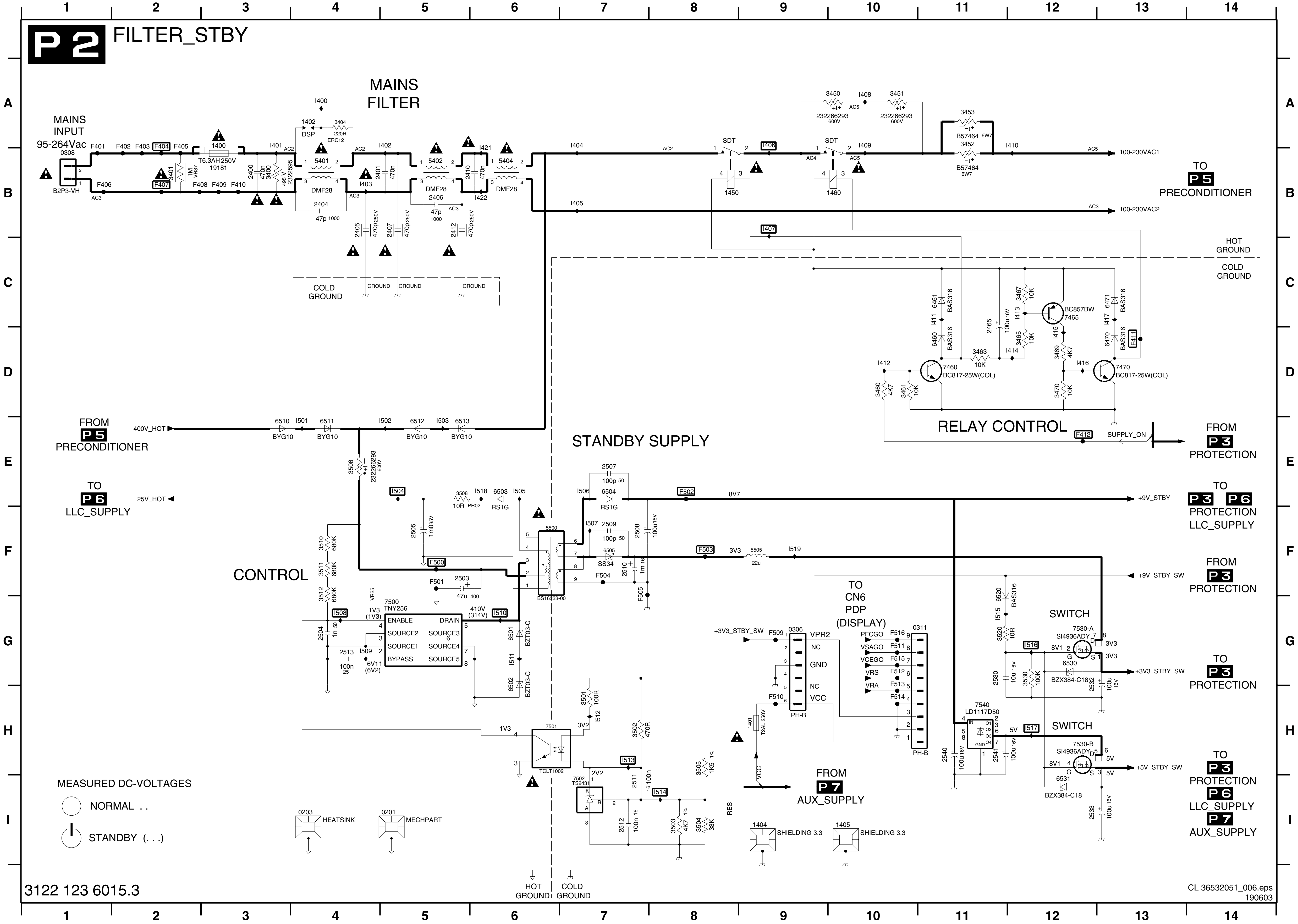
Layout Power Supply Panel (FM24 AB) (Part 4 Bottom Side)


D
E
F
G
6
7
8
9
10
11
3150
7143
3152
7145
7465
7470
7460
6471
6470
6461
6460
6508
6510
6511
6512
6513
6504
6703
7700
6700
7701
3505
6520
6530
6531
3113
3114
2114
6112
6111
A
K
CL 26532055_09d.eps
010502

Power Supply Panel (FM33 AA): Function Blocks and Diagram Connections


P 1
SUPPLY (FUNCTION BLOCKS AND DIAGRAM CONNECTIONS)
100-230VAC1
100-230VAC2
+5V_STBY_SW
+9V_STBY
+9V_STBY_SW
+3V3_STBY_SW
25V_HOT
400V_HOT
0308
MAINS_NEUTRAL
95-264Vac
MAINS_LIVE
SUPPLY_ON
0306
VPR2
NC
GND
GND
NC
VCC
0304
VCC
GND
VPR2
GND
VRA
VRS
VCEGO
VSAGO
PFCGO
VCC
VRA
VRS
VCEGO
VSAGO
PFCGO
DIAGRAM P 2
FILTER_STBY
3122_359_10073_01
GND
GNDHOT
SW25V_HOT
DIAGRAM P 5
PRECONDITIONER
3122_359_10103_01
GNDHOT
SUPPLY_ON
+3V3_OVP
+3V3_STBY_SW
+8V6
+5V_STBY_SW
70-90V
+3V3
+9V_STBY
+9V_STBY_SW
VS
0307
VSK
SENCE_GND
VAK
GND
IAK
GND
VRS
GND
VRA
GND
PFCGO
GND
VCEGO
GND
VSAGO
GND
NC
NC
NC
NC
0319
+9V_STBY
+9V_STBY_SW
+8V6
+5V_STBY_SW
+3V3_STBY_SW
SCL_1
SDA_1
GND
POWER_OK
NC
STANDBY
FAN_SP_1
PFCGO
VSAGO
VCEGO
VRS
DC_PROT
LATCH
VRA
VSA_CONTROL
IAKS
VA
VCC
VCC_GO
POK
DIAGRAM P 3
PROTECTION
3122_359_10083_01
FAN_SP1
GND
VB
+9V
+15V
0302
VSND_NEG
VSND_NEG
GND_SND
GND_SND
VSND_POS
VSND_POS
GND_SND
+9V_STBY
DC_PROT
DIAGRAM P 6
LLC_SUPPLY
3122_359_10113_01
GNDHOT
GND
+10V
0390
GND
FAN_SUPPLY_1
DIAGRAM P 4
FANCONTROL
3122_359_10093_01
GND
+3V3_OVP
+8V6
0342
0352
VA
NC
NC
GND
GND
NC
VCC
0323
VA
NC
VCC
GND
GND
GND
NC
VS
VS
VS
0333
GND
NC
VS
0305
+5
GND
GND
GND
GND
GND
GND
+3V3
+3V3
+3V3
+3V3
+3V3
DIAGRAM P 7
AUX_SUPPLY
3122_359_10123_01
GND
3122 123 6015.3
CL 36532051_005.eps
190603

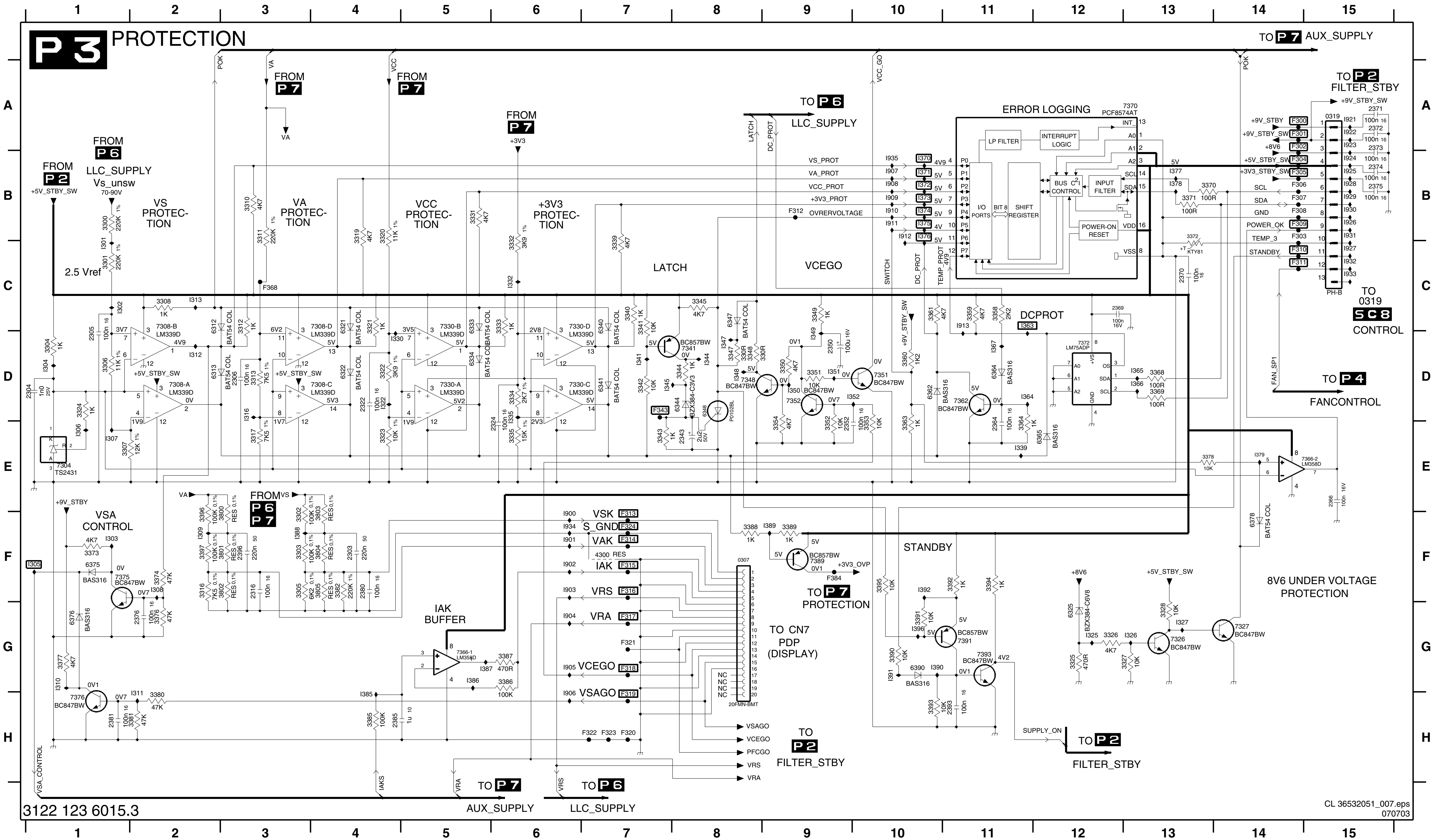
Power Supply Panel (FM33 AA): Filter Standby


P 2 FILTER_STBY
MAINS FILTER
MAINS INPUT 95-264Vac
0308
B2P3-VH
F401 F402 F403 F404 F405 F406 F407 F408 F409 F410
1400 T6.3AH 250V 19181
3401 1M VR37
2400 470n
3400 495 V 2322595
1402 DSP
3404 220R ERC12
I400 I401 I402 I403 I404 I405 I406 I407 I408 I409 I410 I421 I422
5401 DMF28
5402 DMF28
5404 DMF28
2401 470n
2404 47p 1000
2406 47p 1000
2410 470n
2405 470p 250V
2407 470p 250V
2412 470p 250V
COLD GROUND
GROUND
AC2 AC3 AC4 AC5
SDT
1450
1460
3450 232266293 600V
3451 232266293 600V
3453 B57464 6W7
3452 B57464 6W7
100-230VAC1
100-230VAC2
TO P 5 PRECONDITIONER
HOT GROUND
COLD GROUND
6461 BAS316
6460 BAS316
6471 BAS316
6470 BAS316
I411 I412 I413 I414 I415 I416 I417
2465 100u 16V
3467 10K
3465 10K
3463 10K
BC857BW 7465
3469 4K7
7460 BC817-25W(COL)
7470 BC817-25W(COL)
3460 4K7
3461 10K
3470 10K
F411
RELAY CONTROL
F412
SUPPLY_ON
FROM P 3 PROTECTION
FROM P 5 PRECONDITIONER
400V_HOT
6510 BYG10 I501 6511 BYG10 I502 6512 BYG10 I503 6513 BYG10
STANDBY SUPPLY
3506 232266293 600V
TO P 6 LLC_SUPPLY
25V_HOT
I504
3508 10R PR02
I518 6503 RS1G
I505
2507 100p 50
I506 6504 RS1G
F502 8V7
+9V_STBY
TO P 3 P 6 PROTECTION LLC_SUPPLY
2505 1m 35V
5500
I507 2509 100p 50
2508 100u 16V
6505 SS34
2510 1m 16
F503 3V3 5505 22u I519
F504 F505
BS16233-00
F500 F501
2503 47u 400
CONTROL
3510 680K
3511 680K
3512 680K
VR25
I508
7500 TNY256
1V3 (1V3)
ENABLE DRAIN SOURCE2 SOURCE3 SOURCE1 SOURCE4 BYPASS SOURCE5
410V (314V)
I510
6501 BZT03-C
I511
6502 BZT03-C
2504 1n 50
2513 100n 25
I509
6V11 (6V2)
FROM P 3 PROTECTION
+9V_STBY_SW
TO CN6 PDP (DISPLAY)
+3V3_STBY_SW F509 0306 VPR2 NC GND NC VCC PH-B
F510
0311 PFCGO VSAGO VCEGO VRS VRA F516 F511 F515 F512 F513 F514 PH-B
1401 T2AL 250V
VCC
FROM P 7 AUX_SUPPLY
3501 100R I512
3502 470R
7501 TCLT1002
1V3 3V2
I513
7502 TS2431
2V2
2511 100n 16
I514
2512 100n 16
3503 4K7 1%
3504 33K
3505 1K5 1%
RES
SWITCH
6520 BAS316
I515
3520 10R
I516
7530-A SI4936ADY
8V1 3V3
6530 BZX384-C18
2530 10u 16V
3530 100K
2532 100u 16V
+3V3_STBY_SW
TO P 3 PROTECTION
7540 LD1117D50
IN GND
5V I517
2540 100u 16V
2541 100u 16V
7530-B SI4936ADY
6531 BZX384-C18
+5V_STBY_SW
TO P 3 PROTECTION P 6 LLC_SUPPLY P 7 AUX_SUPPLY
2533 100u 16V
MEASURED DC-VOLTAGES
NORMAL . .
STANDBY (. . .)
0203 HEATSINK
0201 MECHPART
1404 SHIELDING 3.3
1405 SHIELDING 3.3
HOT GROUND
COLD GROUND
3122 123 6015.3
CL 36532051_006.eps 190603
1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I

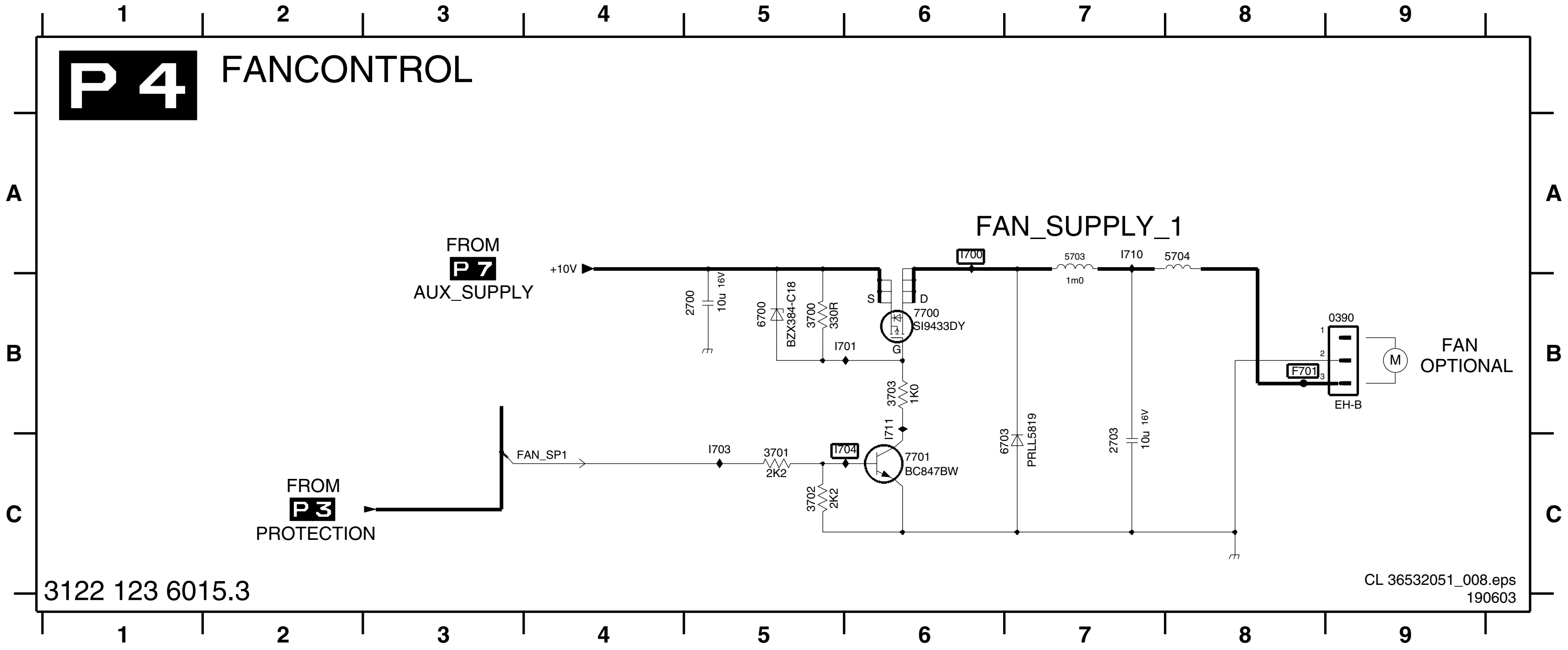
0201	I5
0203	I4
0306	G9
0308	B1
0311	G10
1400	B3
1401	H9
1402	A4
1404	I9
1405	I10
1450	B8
1460	B10
2400	B3
2401	B4
2404	B4
2405	B4
2406	B5
2407	B5
2410	B5
2412	B5
2465	C11
2503	F5
2504	G4
2505	F5
2507	E7
2508	F7
2509	F7
2510	F7
2511	I7
2512	I7
2513	G4
2530	G11
2532	G12
2533	I12
2540	H11
2541	H11
3400	B3
3401	B2
3404	A4
3450	A10
3451	A10
3452	A11
3453	A11
3460	D10
3461	D10
3463	D11
3465	D12
3467	C12
3469	D12
3470	D12
3501	H7
3502	H7
3503	I8
3504	I8
3505	H8
3506	E4
3508	E5
3510	F4
3511	F4
3512	F4
3520	G11
3530	G12
5401	B4
5402	B5
5404	B6
5500	F6
5505	F9
6460	D11
6461	C11
6470	D13
6471	C13
6501	G6
6502	G6
6503	E6
6504	E7
6505	F7
6510	E3
6511	E4
6512	E5
6513	E5
6520	F11
6530	G12
6531	I12
7460	D11
7465	C12
7470	D13
7500	G5
7501	H6
7502	I7
7530-A	G12
7530-B	H12
7540	H11
F401	B1
F402	B2
F403	B2
F404	B2
F405	B2
F406	B1
F407	B2
F408	B2
F409	B3
F410	B3
F411	D13
F412	E12
F500	F5
F501	F5
F502	E8
F503	F8
F504	F7
F505	F7
F509	G9
F510	H9
F511	G10
F512	G10
F513	H10
F514	H10
F515	G10
F516	G10
I400	A4
I401	A3
I402	A5
I403	B4
I404	A7
I405	B7
I406	A9
I407	B9
I408	A10
I409	A10
I410	A12
I411	C11
I412	D10
I413	C12
I414	D12
I415	D12
I416	D12
I417	C13
I421	A6
I422	B6
I501	E4
I502	E5
I503	E5
I504	E5
I505	E6
I506	E7
I507	F7
I508	G4
I509	G4
I510	G6
I511	G6
I512	H7
I513	H7
I514	I8
I515	G11
I516	G12
I517	H12
I518	E6
I519	F9

Power Supply Panel (FM33 AA): Protection

0307 F8
0319 A15
2303 F4
2304 D1
2305 D1
2306 D3
2316 F3
2322 D4
2324 E6
2343 E8
2350 D9
2352 E9
2364 E11
2366 E15
2369 C12
2370 C13
2371 A15
2372 A15
2373 A15
2374 B15
2375 B15
2376 G2
2380 F4
2381 H1
2385 H4
2393 H11
2396 F3
3300 B1
3301 C1
3302 F3
3303 F3
3304 D1
3305 F3
3306 D1
3307 E1
3308 C2
3310 B3
3311 B3
3312 C3
3313 D3
3316 F2
3317 E3
3319 B4
3320 B4
3321 C4
3322 D4
3323 E4
3324 D1
3325 G12
3326 G12
3327 G13
3328 G13
3331 B5
3332 C6
3333 C6
3334 D6
3335 E6
3339 C7
3340 C7
3341 C7
3342 D7
3343 E7
3344 D8
3345 C8
3347 D8
3348 D8
3349 C9
3350 D9
3351 D9
3352 E9
3353 E10
3354 E9
3358 C11
3359 C11
3360 D10
3361 C10
3363 E10
3364 E11
3368 D13
3369 D13
3370 B13
3371 B13
3372 B13
3373 F1
3374 F2
3376 G2
3377 G1
3378 E13
3380 H2
3381 H2
3382 F4
3385 H4
3386 G6
3387 G6
3388 F8
3389 F9
3390 G10
3391 G10
3392 F11
3393 H10
3394 F11
3395 F10
3396 F2
3397 F2
3800 F3
3801 F3
3802 F3
3803 F4
3804 F4
3805 F4
4300 F7
6312 C2
6313 D2
6321 C4
6322 D4
6325 G12
6333 C5
6334 D5
6340 C7
6341 D7
6344 D8
6347 C8
6348 D8
6362 D10
6364 D11
6365 E12
6375 F1
6376 G1
6378 F14
6390 G10
7304 E1
7308-A D2
7308-B C2
7308-C D4
7308-D C4
7326 G13
7327 G14
7330-A D5
7330-B C5
7330-C D6
7330-D C6
7341 D8
7348 D8
7351 D10
7352 D9
7362 D11
7366-1 G5
7366-2 E14
7370 A13
7372 D12
7375 F1
7376 H1
7389 F9
7391 G11
7393 G11
F300 A14
F301 A14
F302 A14
F303 B14
F304 B14
F305 B14
F306 B14
F307 B14
F308 B14
F309 B14
F310 C14
F311 C14
F312 B9
F313 F7
F314 F7
F315 F7
F316 F7
F317 G7
F318 G7
F319 H7
F320 H7
F321 G7
F322 H7
F323 H7
F324 F7
F343 D7
F368 C3
F384 F9
I301 C1
I302 C1
I303 F1
I304 D1
I305 F1
I306 E1
I307 E1
I308 F2
I309 F2
I310 G1
I311 H2
I312 D2
I313 C2
I316 D3
I322 D4
I325 G12
I326 G13
I327 G13
I330 D4
I332 C6
I335 D6
I339 E11
I341 D7
I344 D8
I345 D7
I347 D8
I348 D8
I349 D9
I350 D9
I351 D9
I352 D10
I363 C11
I364 D11
I365 D13
I366 D13
I367 D11
I370 B10
I371 B10
I372 B10
I373 B10
I374 B10
I375 B10
I376 B10
I377 B13
I378 B13
I379 E14
I385 H4
I386 G5
I387 G5
I388 F3
I389 F9
I390 G10
I391 G10
I392 F10
I396 G10
I900 F6
I901 F6
I902 F6
I903 F6
I904 G6
I905 G6
I906 H6
I907 B10
I908 B10
I909 B10
I910 B10
I911 B10
I912 B10
I913 C11
I921 A15
I922 A15
I923 A15
I924 B15
I925 B15
I926 B15
I927 C15
I928 B15
I929 B15
I930 B15
I931 B15
I932 C15
I933 C15
I934 F6
I935 B10

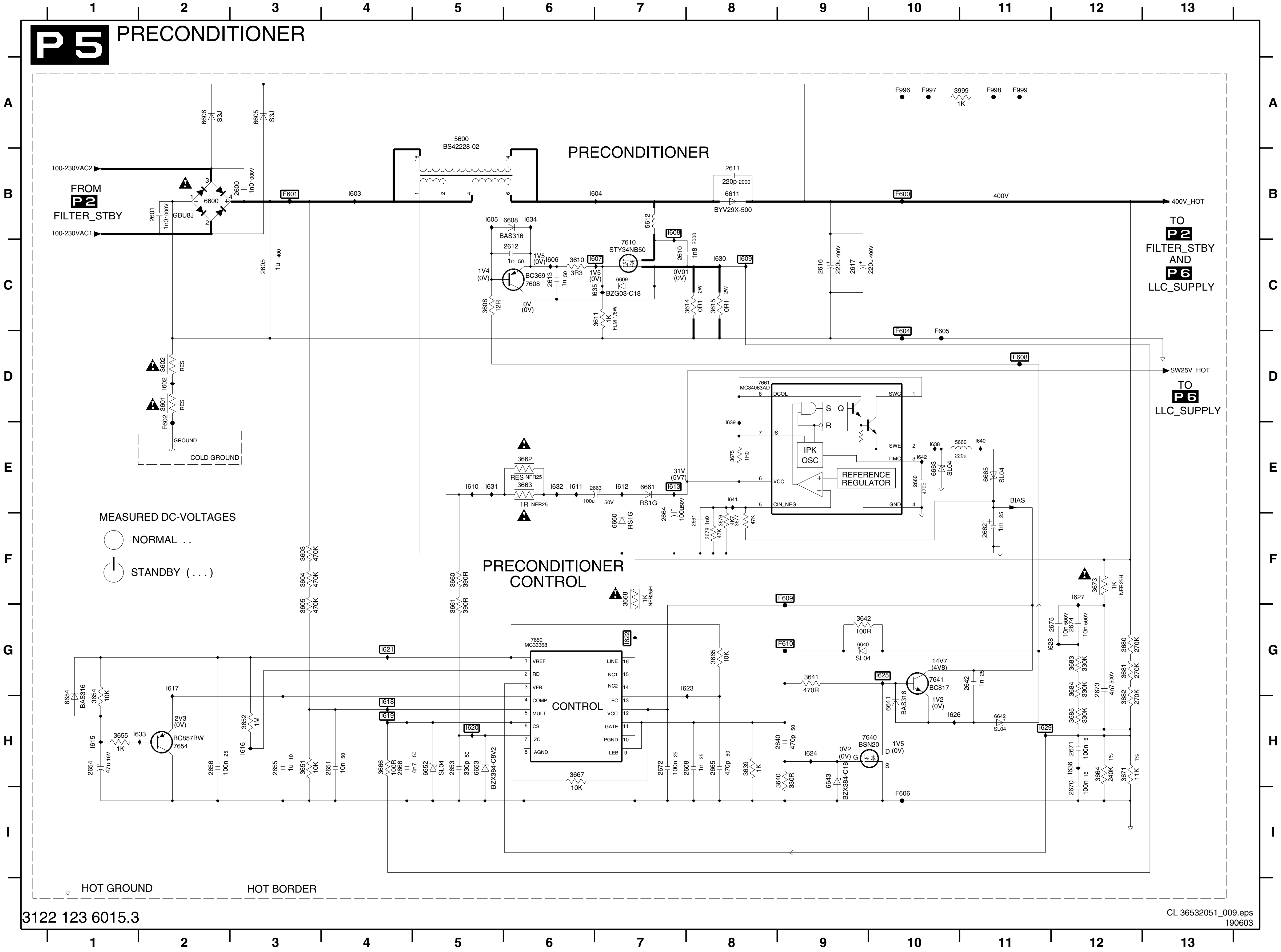

P3 PROTECTION
TO P7 AUX_SUPPLY
POK
VA
FROM P7
VCC
FROM P7
TO P6 LLC_SUPPLY
VCC_GO
TO P2 FILTER_STBY
ERROR LOGGING
7370 PCF8574AT
LP FILTER
INTERRUPT LOGIC
I/O PORTS
BIT 8
SHIFT REGISTER
BUS CONTROL
INPUT FILTER
POWER-ON RESET
INT
A0
A1
A2
SCL
SDA
VDD
VSS
VS_PROT
VA_PROT
VCC_PROT
+3V3_PROT
OVERVOLTAGE
LATCH
DC_PROT
FROM P2 +5V_STBY_SW
FROM P6 LLC_SUPPLY Vs_unsw 70-90V
VS PROTEC-TION
VA PROTEC-TION
VCC PROTEC-TION
FROM P7 +3V3
+3V3 PROTEC-TION
2.5 Vref
LATCH
VCEGO
SWITCH
TEMP_PROT
DCPROT
7372 LM75ADP
TO 0319 SC8 CONTROL
TO P4 FANCONTROL
FAN_SP1
7308-B LM339D
7308-A LM339D
7308-D LM339D
7308-C LM339D
7330-B LM339D
7330-A LM339D
7330-D LM339D
7330-C LM339D
BAT54 COL
7304 TS2431
BC857BW
BC847BW
BAS316
BZX384-C3V3
7366-2 LM358D
+9V_STBY
VSA CONTROL
FROM P6 P7
VSK
S_GND
VAK
IAK
VRS
VRA
VCEGO
VSAGO
IAK BUFFER
7366-1 LM358D
TO CN7 PDP (DISPLAY)
20FMN-BMT
TO P7 PROTECTION
+3V3_OVP
STANDBY
8V6 UNDER VOLTAGE PROTECTION
+8V6
BZX384-C6V8
+5V_STBY_SW
+9V_STBY
+9V_STBY_SW
+8V6
+3V3_STBY_SW
SCL
SDA
GND
POWER_OK
TEMP_3
STANDBY
PH-B
KTY81
VSA_CONTROL
IAKS
VRA
VRS
TO P7 AUX_SUPPLY
TO P6 LLC_SUPPLY
VSAGO
VCEGO
PFCGO
TO P2 FILTER_STBY
SUPPLY_ON
TO P2 FILTER_STBY
3122 123 6015.3
CL 36532051_007.eps 070703
A
B
C
D
E
F
G
H
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

Power Supply Panel (FM33 AA): Fan Control


1
2
3
4
5
6
7
8
9
A
B
C
P 4
FANCONTROL
FROM
P 7
AUX_SUPPLY
+10V
2700
10u 16V
6700
BZX384-C18
3700
330R
S
D
7700
SI9433DY
G
I701
3703
1K0
I711
FAN_SUPPLY_1
I700
5703
1m0
I710
5704
0390
1
2
3
F701
EH-B
M
FAN
OPTIONAL
6703
PRLL5819
2703
10u 16V
FROM
P 3
PROTECTION
FAN_SP1
I703
3701
2K2
I704
7701
BC847BW
3702
2K2
3122 123 6015.3
CL 36532051_008.eps
190603

0390	B9
2700	B5
2703	C7
3700	B5
3701	C5
3702	C5
3703	B6
5703	A7
5704	A8
6700	B5
6703	C7
7700	B6
7701	C6
F701	B8
I700	A6
I701	B6
I703	C5
I704	C6
I710	A7
I711	B6

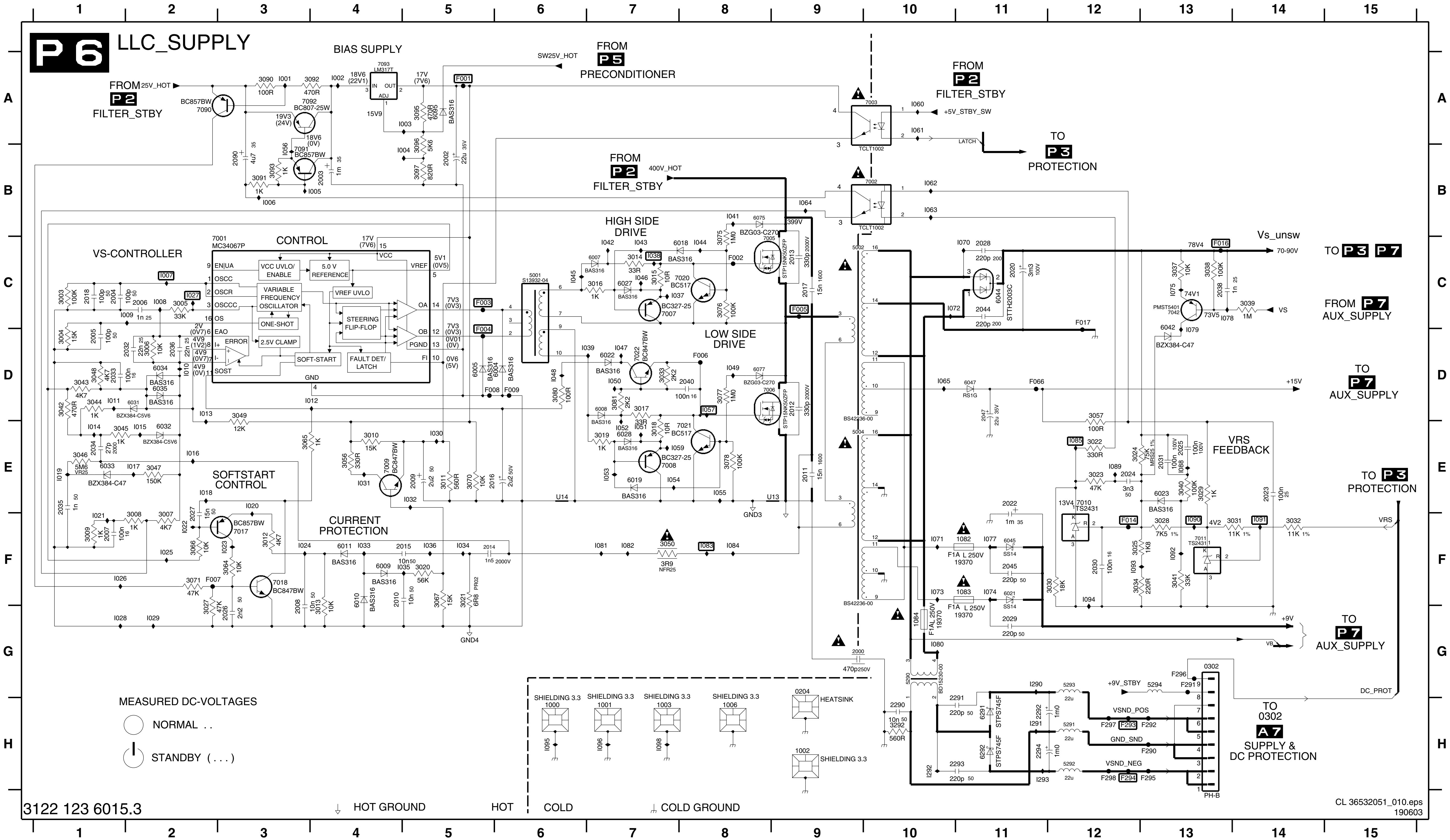
Power Supply Panel (FM33 AA): Pre-Conditioner


P 5
PRECONDITIONER
FROM P 2 FILTER_STBY
100-230VAC2
100-230VAC1
6600 GBU8J
6606 S3J
6605 S3J
2600 1n0 1000V
2601 1n0 1000V
2605 1u 400
F601
I603
5600 BS42228-02
PRECONDITIONER
I604
2611 220p 2000
6611 BYV29X-500
F600
400V
400V_HOT
TO P 2 FILTER_STBY AND P 6 LLC_SUPPLY
5612
I608
6608 BAS316
2612 1n 50
7608 BC369
2613 1n 50
3610 3R3
7610 STY34NB50
6609 BZG03-C18
2610 1n8 2000
I630
I609
3608 12R
3611 1K FLM 1/6W
3614 0R1 2W
3615 0R1 2W
2616 220u 400V
2617 220u 400V
F604
F605
F608
SW25V_HOT
TO P 6 LLC_SUPPLY
F996 F997 3999 1K F998 F999
3602 RES
I602
3601 RES
F602
GROUND
COLD GROUND
7661 MC34063AD
DCOL SWC IS SWE TIMC VCC CIN_NEG GND
IPK OSC
REFERENCE REGULATOR
5660 220u
6663 SL04
6665 SL04
2660 470p
3675 1R0
BIAS
2662 1m 25
3662 RES NFR25
3663 1R NFR25
I610 I631 I632 I611 I612 I613
2663 100u 50V
6661 RS1G
6660 RS1G
2664 100u 50V
31V (5V7)
MEASURED DC-VOLTAGES
NORMAL . .
STANDBY (. . .)
3603 470K
3604 470K
3605 470K
3660 390R
3661 390R
PRECONDITIONER CONTROL
3668 1K NFR25H
F609
7650 MC33368
VREF RD VFB COMP MULT CS ZC AGND LINE NC1 NC2 FC VCC GATE PGND LEB
CONTROL
3667 10K
I621 I618 I619 I620 I622 I623
6654 BAS316
3654 10K
I617
3655 1K
I633
7654 BC857BW
2V3 (0V)
3652 1M
I616
2654 47u 16V
2656 100n 25
2655 1u 10
3651 10K
2651 10n 50
3666 100R
2666 4n7 50
6652 SL04
2653 330p 50
6653 BZX384-C8V2
2672 100n 25
2608 1n 25
2665 470p 50
3665 10K
3639 1K
F610
3642 100R
6640 SL04
3641 470R
I625
7641 BC817
14V7 (4V8)
1V2 (0V)
6641 BAS316
2642 1n 25
I626
6642 SL04
7640 BSN20
0V2 (0V)
1V5 (0V)
2640 470p 50
3640 330R
I624
6643 BZX384-C18
F606
3673 1K NFR25H
I627
2675 10n 500V
2674 10n 500V
I628
3683 330K
3684 330K
3685 330K
3680 270K
3681 270K
3682 270K
2673 4n7 500V
2671 100n 16
I636
2670 100n 16
3664 240K 1%
3671 11K 1%
HOT GROUND
HOT BORDER
3122 123 6015.3
CL 36532051_009.eps
190603

2600	B3
2601	B2
2605	C3
2608	H8
2610	C7
2611	B8
2612	C6
2613	C6
2616	C9
2617	C9
2640	H9
2642	G11
2651	H4
2653	H5
2654	H1
2655	H3
2656	H2
2660	E10
2661	F8
2662	F11
2663	E7
2664	F7
2665	H8
2666	H4
2670	I12
2671	H12
2672	H7
2673	G12
2674	G12
2675	G12
3601	D2
3602	D2
3603	F3
3604	F3
3605	G3
3608	C5
3610	C6
3611	C7
3614	C8
3615	C8
3639	H8
3640	H9
3641	G9
3642	G9
3651	H3
3652	H3
3654	H1
3655	H1
3660	F5
3661	G5
3662	E6
3663	E6
3664	H12
3665	G8
3666	H4
3667	H6
3668	F7
3671	H12
3673	F12
3675	E8
3676	F8
3677	F8
3678	F8
3680	G12
3681	G12
3682	H12
3683	G12
3684	G12
3685	H12
3999	A11
5600	A5
5612	B7
5660	E11
6600	B2
6605	A3
6606	A2
6608	B6
6609	C7
6611	B8
6640	G9
6641	H10
6642	H11
6643	H9
6652	H5
6653	H5
6654	H1
6660	F7
6661	E7
6663	E10
6665	E11
7608	C6
7610	C7
7640	H10
7641	G10
7650	G6
7654	H2
7661	D8
F600	B10
F601	B3
F602	E2
F604	D10
F605	D10
F606	I10
F608	D11
F609	F9
F610	G9
F996	A10
F997	A10
F998	A11
F999	A11
I602	D2
I603	B4
I604	B7
I605	B5
I606	C6
I607	C7
I608	B7
I609	C8
I610	E5
I611	E6
I612	E7
I613	E7
I615	H1
I616	H3
I617	G2
I618	H4
I619	H4
I620	H5
I621	G4
I622	G7
I623	G8
I624	H9
I625	G10
I626	H10
I627	F12
I628	G11
I629	H11
I630	C8
I631	E5
I632	E6
I633	H2
I634	B6
I635	C6
I636	H12
I638	E10
I639	E8
I640	E11
I641	E8
I642	E10

Power Supply Panel (FM33 AA): LLC Supply

U13 E9
U14 E6
0204 G9
0302 G13
1000 H6
1001 H7
1002 H9
1003 H7
1006 H8
1082 F11
1083 F11
1084 G10
2000 G9
2002 B5
2003 B4
2004 C1
2005 D1
2006 C2
2007 F1
2008 G3
2009 E5
2010 F4
2011 E9
2012 D9
2013 C9
2014 F5
2015 F5
2016 E5
2017 C9
2018 C1
2020 C11
2022 E11
2023 E14
2024 E12
2025 E13
2026 G3
2027 F2
2028 C11
2029 G11
2030 F12
2031 E13
2032 D2
2033 D1
2034 E1
2035 E1
2036 D2
2038 C13
2040 D8
2044 C11
2045 F11
2047 D11
2090 B3
2290 H10
2291 H11
2292 H11
2293 H11
2294 H11
3003 C1
3004 D1
3005 C2
3006 D2
3007 F2
3008 F2
3009 F1
3010 E4
3011 E5
3012 F3
3013 G4
3014 C7
3015 C7
3016 C7
3017 D7
3018 E7
3019 E7
3020 F5
3021 F5
3022 E12
3023 E12
3024 E12
3025 F12
3027 G2
3028 F13
3029 E13
3030 F12
3031 F14
3032 F14
3033 D7
3034 F12
3037 C13
3038 C13
3039 C14
3040 E13
3041 F13
3042 D1
3043 D1
3044 D1
3045 E1
3046 E1
3047 E2
3048 D1
3049 D3
3050 F7
3056 E4
3057 D12
3064 F3
3065 E3
3066 F2
3067 F5
3070 E5
3071 F2
3075 C8
3076 C8
3077 D8
3078 E8
3080 D6
3081 D7
3090 A3
3091 B3
3092 A4
3093 B3
3095 A5
3096 B5
3097 B5
3292 H10
5001 C6
5002 C9
5004 E9
5290 G10
5291 H12
5292 H12
5293 G12
5294 G13
6004 D6
6005 D5
6007 C7
6008 D7
6009 F4
6010 F4
6011 F4
6018 C8
6019 E7
6021 F11
6022 D7
6023 E13
6027 C7
6028 E7
6031 D2
6032 E2
6033 E1
6034 D2
6035 D2
6042 D13
6044 C11
6045 F11
6047 D11
6075 B8
6077 D8
6095 A5
6291 H11
6292 H11
7001 C2
7002 B10
7003 A10
7005 C8
7006 D8
7007 C7
7008 E7
7009 E4
7010 E12
7011 F13
7017 F3
7018 F3
7020 C8
7021 E8
7022 D7
7042 C13
7090 A2
7091 B3
7092 A4
7093 A4
F001 A5
F002 C8
F003 C5
F004 D5
F005 C9
F006 D8
F007 F2
F008 D5
F009 D6
F014 F12
F016 C13
F017 C12
F066 D11
F290 H13
F291 G13
F292 H13
F293 H12
F294 H12
F295 H13
F296 G13
F297 H12
F298 H12
I001 A3
I002 A4
I003 A5
I004 B5
I005 B4
I006 B3
I007 C2
I008 C2
I009 C2
I010 D2
I011 D1
I012 D4
I013 D2
I014 E1
I015 E2
I016 E2
I017 E2
I018 E2
I019 E1
I020 E3
I021 F1
I022 F2
I023 F3
I024 F3
I025 F2
I026 F1
I027 C2
I028 G1
I029 G2
I030 E5
I031 E4
I032 E5
I033 F4
I034 F5
I035 F5
I036 F5
I037 C7
I038 C7
I039 D7
I041 B8
I042 C7
I043 C7
I044 C8
I045 C6
I046 C7
I047 D7
I048 D6
I049 D8
I050 D7
I051 E7
I052 E7
I053 E7
I054 E7
I055 E8
I056 B3
I057 D8
I059 E7
I060 A10
I061 A10
I062 B10
I063 B10
I064 B9
I065 D10
I070 C11
I071 F10
I072 C10
I073 F10
I074 F11
I075 C13
I077 F11
I078 C13
I079 D13
I080 G10
I081 F7
I082 F7
I083 F8
I084 F8
I085 E12
I088 E13
I089 E12
I090 F13
I091 F14
I092 F13
I093 F12
I094 F12
I095 H6
I096 H7
I098 H7
I290 G11
I291 H11
I292 H10
I293 H11

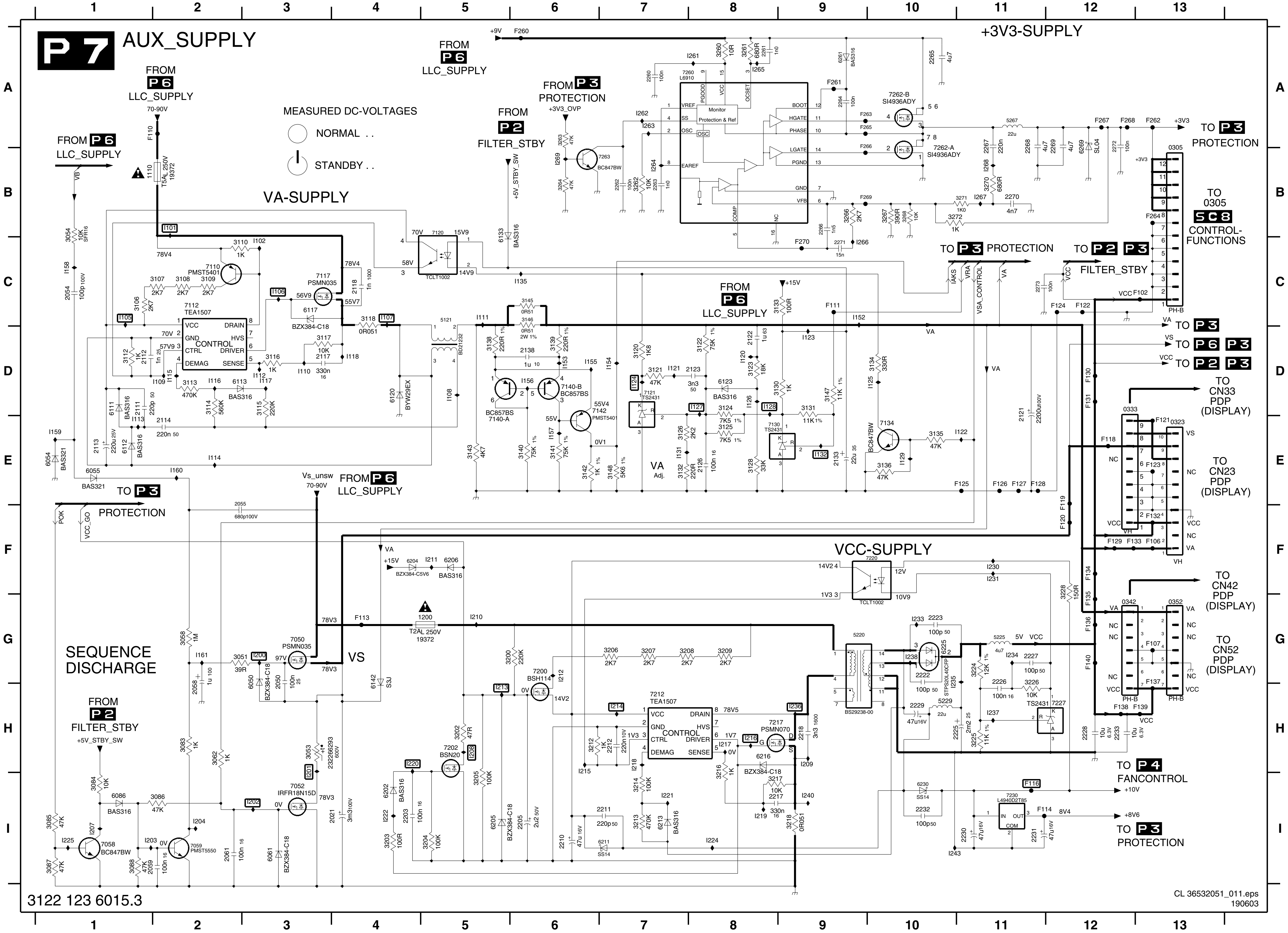


P 6 LLC_SUPPLY
BIAS SUPPLY
FROM P 2 FILTER_STBY
25V_HOT
FROM P 5 PRECONDITIONER
SW25V_HOT
FROM P 2 FILTER_STBY
+5V_STBY_SW
LATCH
TO P 3 PROTECTION
FROM P 2 FILTER_STBY
400V_HOT
VS-CONTROLLER
CONTROL
7001 MC34067P
VCC UVLO/ ENABLE
5.0 V REFERENCE
VREF UVLO
VARIABLE FREQUENCY OSCILLATOR
ONE-SHOT
STEERING FLIP-FLOP
ERROR
2.5V CLAMP
SOFT-START
FAULT DET/ LATCH
GND
HIGH SIDE DRIVE
LOW SIDE DRIVE
SOFTSTART CONTROL
CURRENT PROTECTION
Vs_unsw
70-90V
TO P 3 P 7
FROM P 7 AUX_SUPPLY
VS
+15V
TO P 7 AUX_SUPPLY
VRS FEEDBACK
TO P 3 PROTECTION
VRS
+9V
TO P 7 AUX_SUPPLY
VB
DC_PROT
TO 0302 A 7 SUPPLY & DC PROTECTION
+9V_STBY
VSND_POS
GND_SND
VSND_NEG
PH-B
GND3
GND4
SHIELDING 3.3
HEATSINK
MEASURED DC-VOLTAGES
NORMAL . .
STANDBY (. . .)
HOT GROUND
HOT
COLD
COLD GROUND

3122 123 6015.3

CL 36532051_010.eps
190603

Power Supply Panel (FM33 AA): Aux Supply


P7 AUX_SUPPLY
+3V3-SUPPLY
VA-SUPPLY
VCC-SUPPLY
SEQUENCE DISCHARGE
MEASURED DC-VOLTAGES
NORMAL ..
STANDBY ..
FROM P6 LLC_SUPPLY
FROM P3 PROTECTION
FROM P2 FILTER_STBY
FROM P2 FILTER_STBY
TO P3 PROTECTION
TO 0305 SC8 CONTROL-FUNCTIONS
TO P2 P3 FILTER_STBY
TO P3
TO P6 P3
TO P2 P3
TO CN33 PDP (DISPLAY)
TO CN23 PDP (DISPLAY)
TO CN42 PDP (DISPLAY)
TO CN52 PDP (DISPLAY)
TO P4 FANCONTROL
TO P3 PROTECTION
VS
VA
VCC
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7212 TEA1507
CONTROL
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7230 L4940D2T85
5220 BS29238-00
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A B C D E F G H I

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0333	D13
0342	G13
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1110	B1
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2055	F2
2058	H2
2059	I1
2061	I2
2111	D1
2112	D1
2113	E1
2114	E2
2117	D3
2118	C4
2121	D11
2122	D8
2123	D8
2126	E8
2133	E9
2138	D6
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2210	I6
2211	I7
2212	H7
2217	I8
2218	H9
2222	G10
2223	G10
2225	H11
2226	H11
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2228	H12
2229	H10
2230	I11
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2232	I10
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2272	A12
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3204	I5
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3214	I7
3216	H8
3217	I8
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I267	B11
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I269	B6

Layout Power Supply Panel (FM33 AA) (Overview Top Side only (no components on bottom side))

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0204	D7	0319	G5	1083	C8	1450	F4	2006	A4	2013	C5	2021	D9	2028	C8	2035	A5	2050	E8
0302	A9	0323	F9	1084	B8	1460	E4	2007	A5	2014	B5	2022	B8	2029	C8	2036	A4	2054	D8
0305	G8	0333	F9	1110	D7	2000	A5	2008	A4	2015	A4	2023	E5	2030	E5	2038	D8	2055	D8
0306	G3	0342	F9	1200	E6	2002	A4	2009	A4	2016	A4	2024	E5	2031	E8	2040	B3	2058	C8
0307	G2	0352	F9	1400	G1	2003	A4	2010	A3	2017	C5	2025	E8	2032	A4	2044	C8	2059	D8

2061	D8	2118	C6	2203	F5	2222	F8	2230	E6	2263	G8	2270	G9	2293	C8	2322	G8	2369	G5
2090	B3	2121	C9	2205	F5	2223	F8	2231	E7	2264	G8	2271	G8	2294	A8	2324	G8	2370	G5
2111	D5	2122	E6	2210	G6	2225	F8	2232	E7	2265	G9	2272	G8	2303	G7	2343	G6	2371	G5
2112	D5	2123	D5	2211	F6	2226	E8	2233	E9	2266	G8	2273	G9	2304	G8	2350	G7	2372	G5
2113	D5	2126	D6	2212	F6	2227	E8	2260	G8	2267	G9	2290	B8	2305	G7	2352	G7	2373	G5
2114	D5	2133	E5	2217	F6	2228	E9	2261	G8	2268	G8	2291	B8	2306	G7	2364	G6	2374	G5
2117	D6	2138	E7	2218	E6	2229	E7	2262	G8	2269	G8	2292	A8	2316	G7	2366	G7	2375	G5

2376	G6	2401	F2	2465	E5	2510	F5	2540	F5	2611	C2	2651	A2	2662	A2	2672	A2
2380	G7	2404	F2	2503	F4	2511	G4	2541	F5	2612	B2	2653	B3	2663	A2	2673	B2
2381	G6	2405	E1	2504	G4	2512	G4	2600	E2	2613	B2	2654	B2	2664	A2	2674	B2
2385	G7	2406	E2	2505	C4	2513	G3	2601	D2	2616	D4	2655	A2	2665	B2	2675	B2
2393	G6	2407	E1	2507	F5	2530	G3	2605	C1	2617	C4	2656	B2	2666	A2	2700	A8
2396	G8	2410	E2	2508	F5	2532	G3	2608	A2	2640	A2	2660	A2	2670	A2	2703	A9
2400	F1	2412	D1	2509	F5	2533	G4	2610	C2	2642	A2	2661	A1	2671	A2	3003	A4

3004	A4	3200	F5	3452	C1	6035	A4	7112	D5
3005	A4	3202	F5	3453	C1	6042	D8	7117	D6
3006	A4	3203	F6	3460	E5	6044	C8	7120	D5
3007	A4	3204	F5	3461	E5	6045	C8	7121	D5
3008	A5	3205	F5	3463	F5	6047	B8	7130	D6
3009	A5	3206	F6	3465	E5	6050	E8	7134	D5
3010	A3	3207	F5	3467	E5	6054	D8	7140	E7
3011	A4	3208	F5	3469	E5	6055	D8	7142	E6
3012	A4	3209	F5	3470	E5	6061	D8	7200	F6
3013	A4	3212	F6	3501	G4	6075	D5	7202	F5
3014	B4	3213	G6	3502	F4	6077	B5	7212	F6
3015	C4	3214	F5	3503	F4	6086	D8	7217	F6
3016	C4	3216	F6	3504	G4	6095	A3	7220	E8
3017	B3	3217	F6	3505	F5	6111	D5	7227	E8
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3019	B4	3224	E8	3508	D4	6113	D5	7260	G8
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3022	E5	3228	E8	3512	G4	6123	E6	7304	G8
3023	E5	3260	G8	3520	G3	6133	D6	7308	G7
3024	E8	3261	G8	3530	G3	6142	E8	7326	F8
3025	E5	3262	G8	3601	A5	6202	F5	7327	G8
3027	A4	3263	G8	3602	A5	6204	G6	7330	G8
3028	E5	3264	G8	3603	A2	6205	F5	7341	G6
3029	E5	3266	G8	3604	A2	6206	G6	7348	G7
3030	E5	3267	G8	3605	A2	6211	F6	7351	G7
3031	E5	3268	G8	3608	B2	6213	G6	7352	G7
3032	E5	3270	G9	3610	B2	6216	F6	7362	G6
3033	B3	3271	G9	3611	B2	6225	F8	7366	G7
3034	E5	3272	G8	3614	C2	6230	E6	7370	G5
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3054	D8	3319	G7	3667	A2	6362	G6	7640	A2
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3062	D8	3323	G8	3675	A1	6376	G6	7661	A1
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3090	A3	3348	G7	3805	G7	6600	D3		
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3142	E6	3397	G8	6027	C4	7059	D8		
3143	E6	3400	F2	6028	B4	7090	A3		
3145	E7	3401	G1	6031	A4	7091	A3		
3146	E7	3404	F1	6032	A4	7092	B4		
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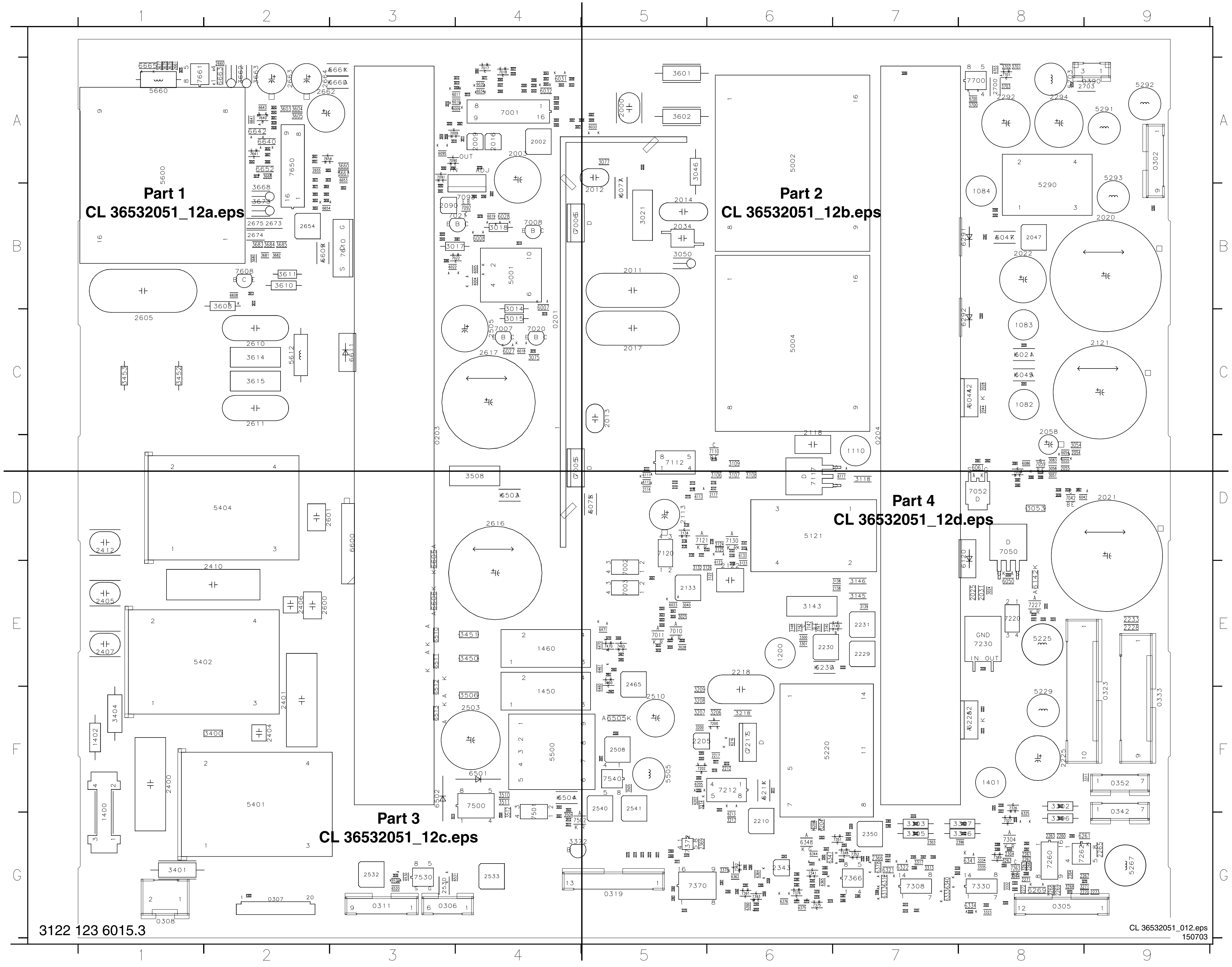
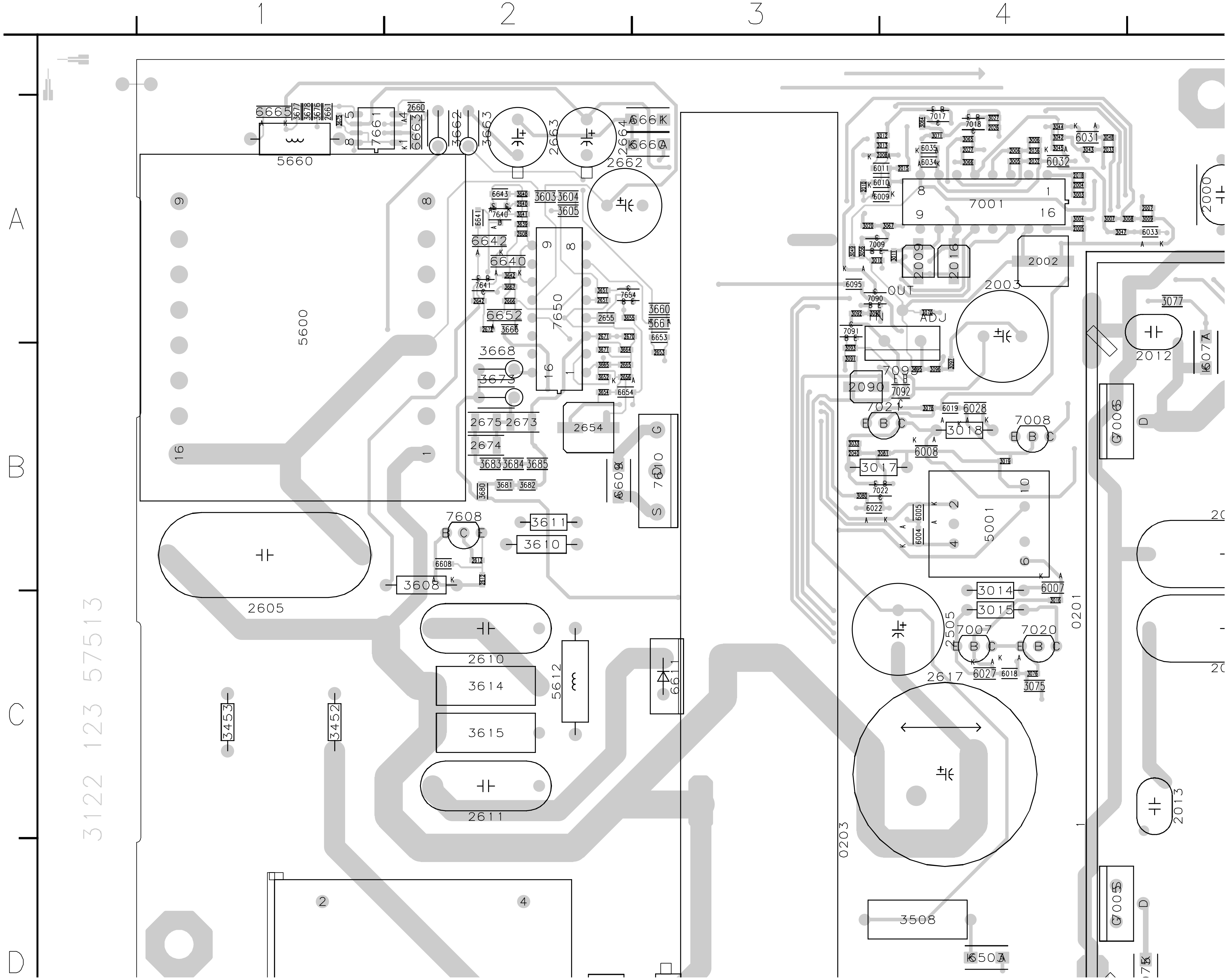


Layout Power Supply Panel (FM33 AA) (Part 1 Top Side)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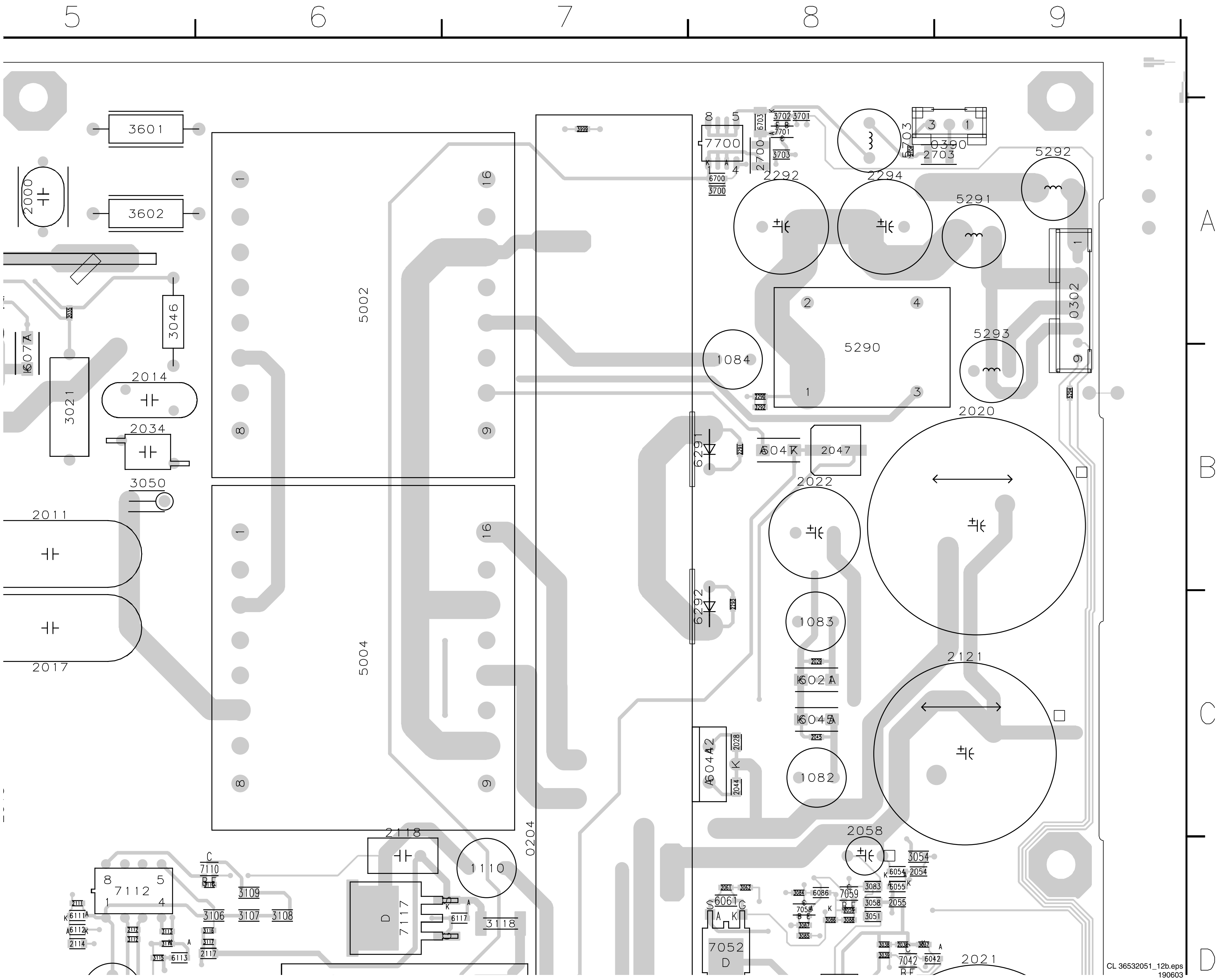
Layout Power Supply Panel (FM33 AA) (Part 2 Top Side)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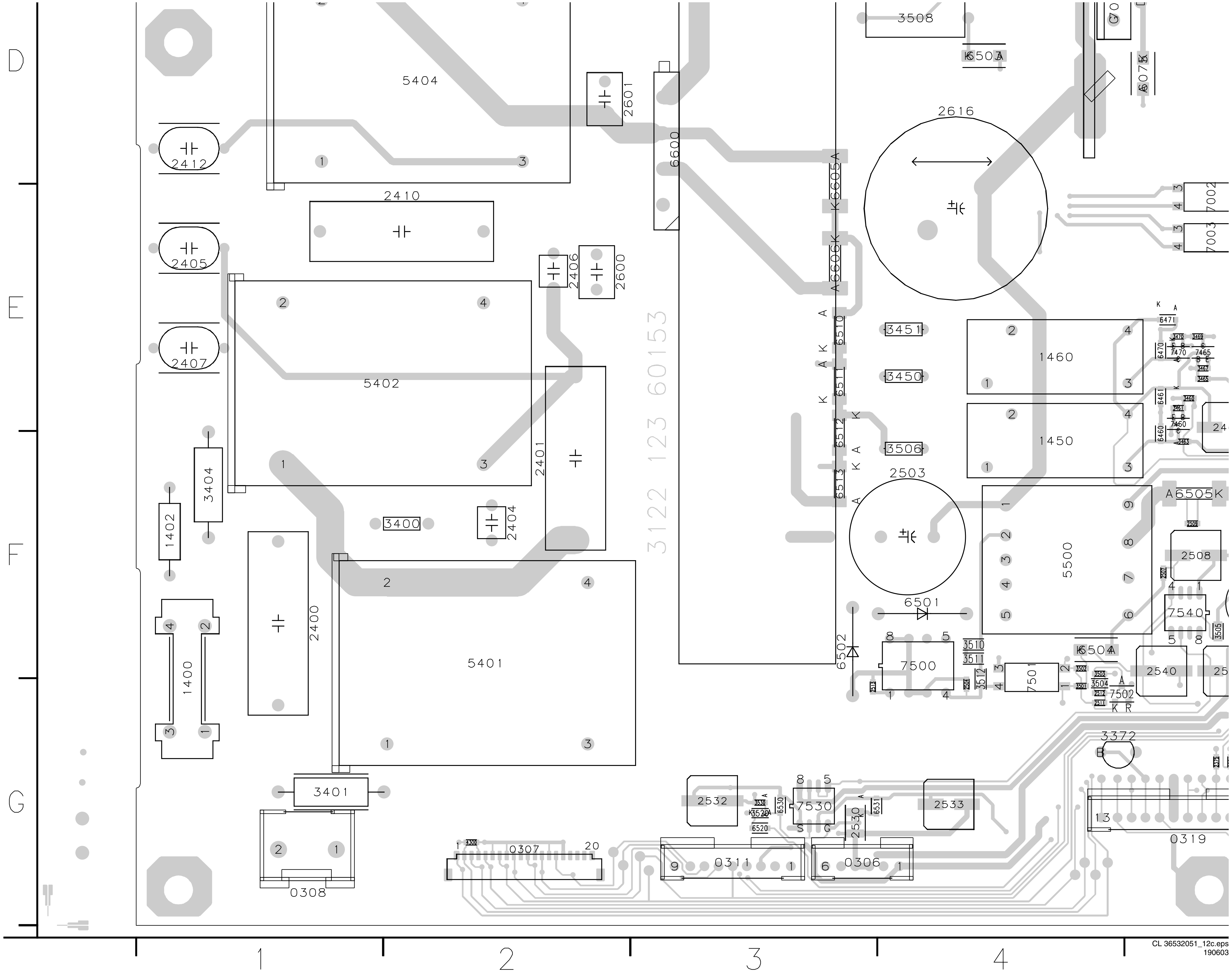
Layout Power Supply Panel (FM33 AA) (Part 3 Top Side)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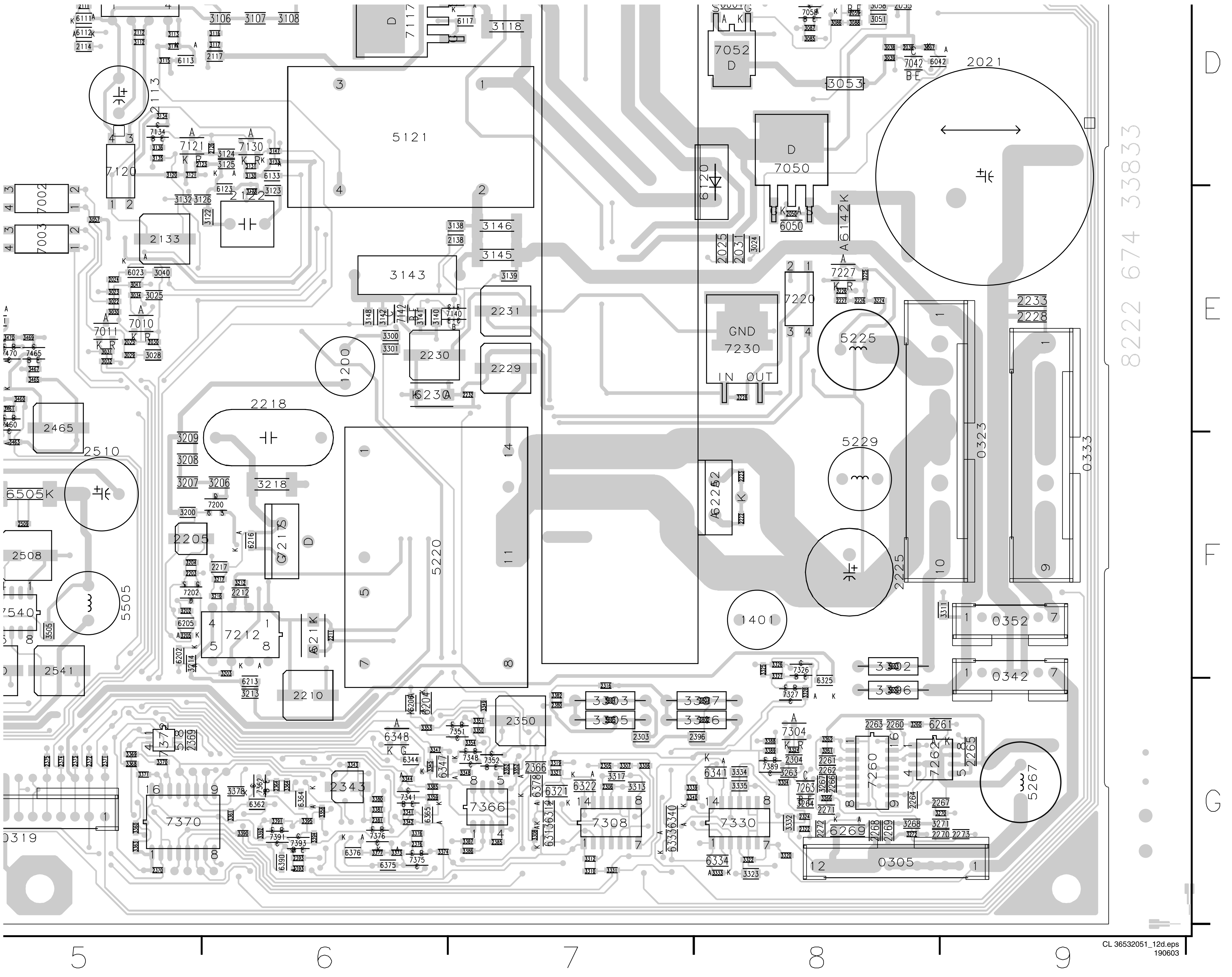
2405
2406
2600
3122 123 60153
6605
6606
6510
6511
6512
6513
3451
3450
3506
7002
7003
6471
7470
7465
6470
1460
1450
6461
6460
7460
2407
5402
2401
2404
3404
1402
3400
2503
A6505K
2508
5500
7540
6501
6502
2400
1400
5401
7500
7501
3510
3511
3512
6504
3502
3503
3504
7502
2540
3505
3372
3401
2532
7530
6530
6520
6531
2530
2533
0319
0308
0307
0311
0306

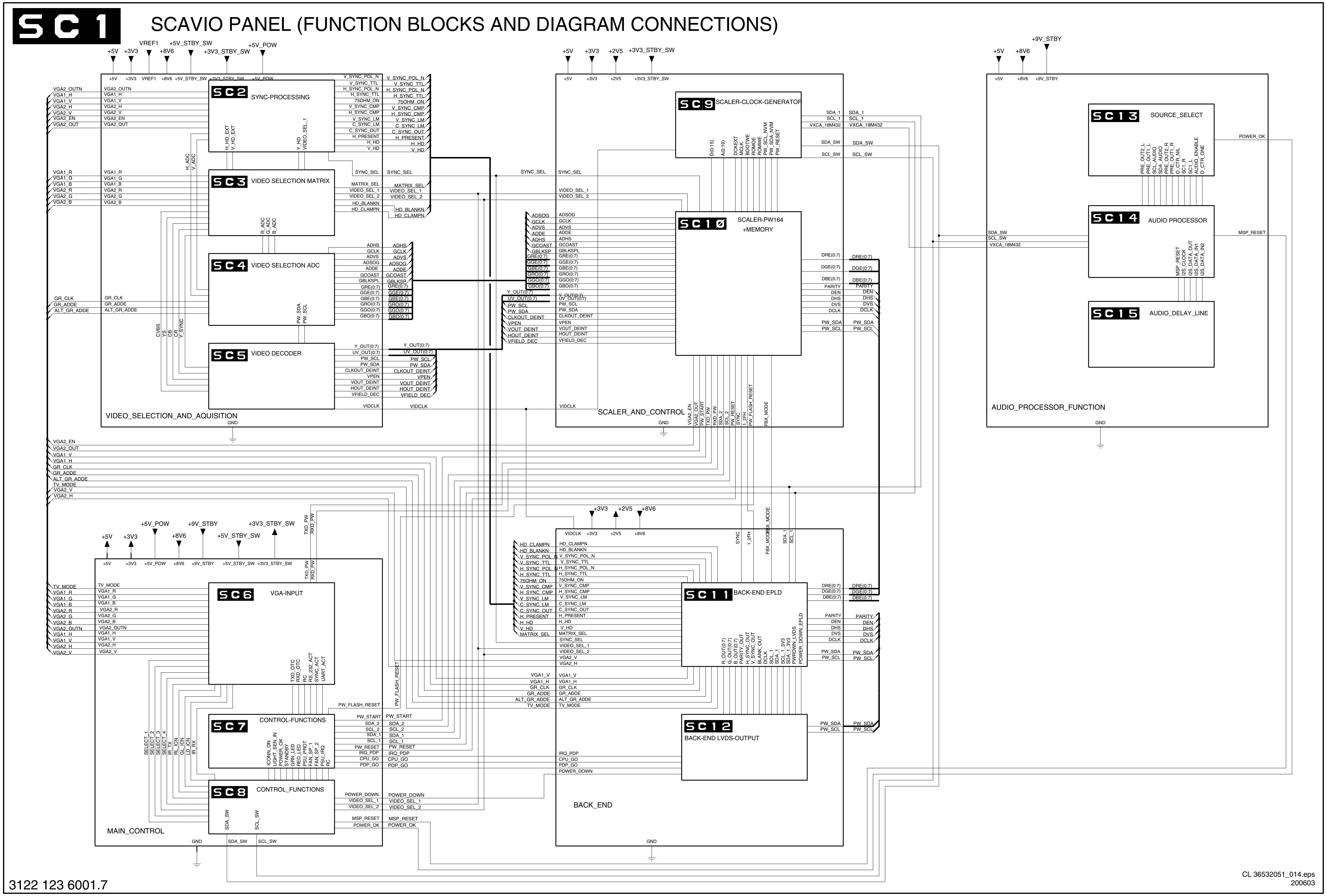
CL 36532051_12c.eps
190603

Layout Power Supply Panel (FM33 AA) (Part 4 Top Side)

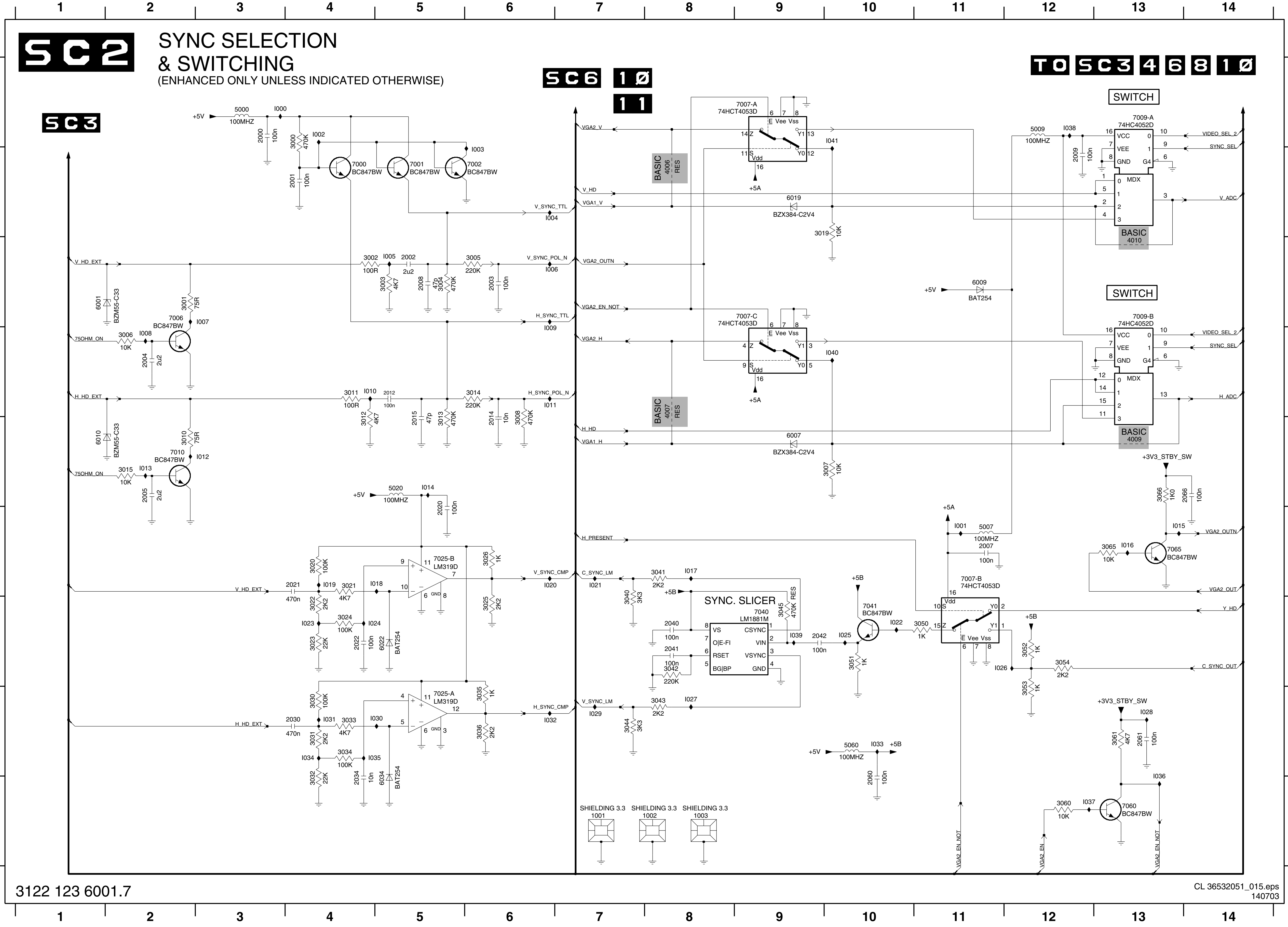

D
E
F
G
5
6
7
8
9
8222 674 33833
5121
5220
2021
7050
7052
7117
7120
7121
7130
7002
7003
2133
2122
3143
3146
3145
2231
2230
2229
6230
1200
2218
2465
2510
6505
2508
5505
7540
2541
2205
7212
7217
6211
2210
6120
6225
7220
7230
GND
IN
OUT
5225
5229
2225
1401
0323
0333
0352
0342
2233
2228
3053
6142
6050
2025
2031
2350
2343
7366
7308
7330
7370
7260
7262
2265
5267
0305
0319
6269
6348
6322
6321
6341
3302
3306
3303
3305
3307
3306

CL 36532051_12d.eps
190603

SCAVIO Panel: Function Blocks and Diagram Connections


SC1
SCAVIO PANEL (FUNCTION BLOCKS AND DIAGRAM CONNECTIONS)
SC2 SYNC-PROCESSING
SC3 VIDEO SELECTION MATRIX
SC4 VIDEO SELECTION ADC
SC5 VIDEO DECODER
VIDEO_SELECTION_AND_AQUISITION
SC9 SCALER-CLOCK-GENERATOR
SC10 SCALER-PW164 +MEMORY
SCALER_AND_CONTROL
SC13 SOURCE_SELECT
SC14 AUDIO PROCESSOR
SC15 AUDIO_DELAY_LINE
AUDIO_PROCESSOR_FUNCTION
SC6 VGA-INPUT
SC7 CONTROL-FUNCTIONS
SC8 CONTROL_FUNCTIONS
MAIN_CONTROL
SC11 BACK-END EPLD
SC12 BACK-END LVDS-OUTPUT
BACK_END
+5V
+3V3
VREF1
+8V6
+5V_STBY_SW
+3V3_STBY_SW
+5V_POW
+2V5
+9V_STBY
GND
3122 123 6001.7
CL 36532051_014.eps
200603

SCAVIO Panel: Sync Selection & Switching

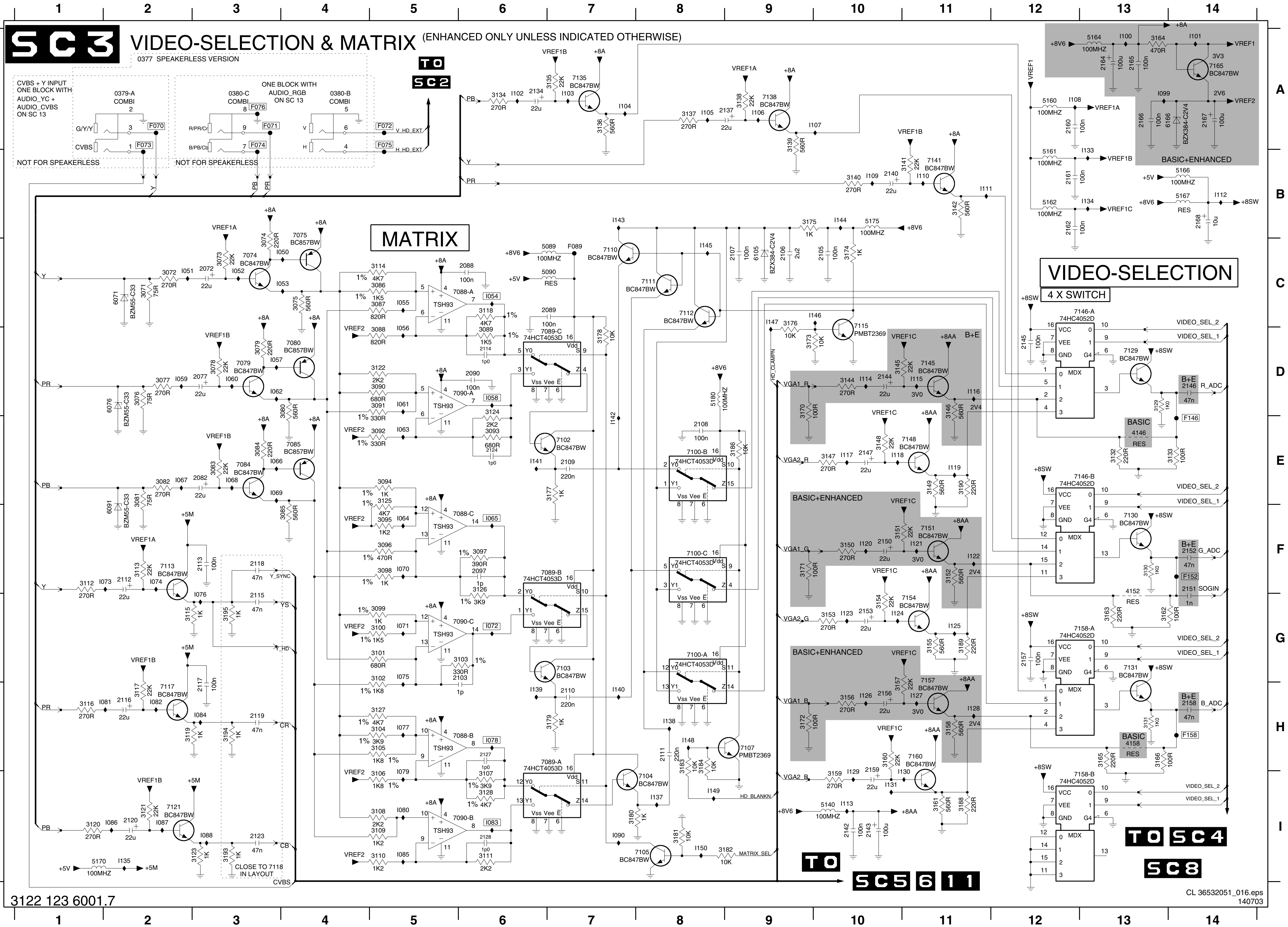

SC2
SYNC SELECTION
& SWITCHING
(ENHANCED ONLY UNLESS INDICATED OTHERWISE)
SC6 10 11
TO SC3 4 6 8 10
SC3
SWITCH
SWITCH
SYNC. SLICER
7007-A 74HCT4053D
7007-B 74HCT4053D
7007-C 74HCT4053D
7009-A 74HC4052D
7009-B 74HC4052D
7025-A LM319D
7025-B LM319D
7040 LM1881M
7000 BC847BW
7001 BC847BW
7002 BC847BW
7006 BC847BW
7010 BC847BW
7041 BC847BW
7060 BC847BW
7065 BC847BW
BASIC 4006 RES
BASIC 4007 RES
BASIC 4010
BASIC 4009
6001 BZM55-C33
6010 BZM55-C33
6019 BZX384-C2V4
6007 BZX384-C2V4
6009 BAT254
6022 BAT254
6034 BAT254
5000 100MHZ
5009 100MHZ
5020 100MHZ
5007 100MHZ
5060 100MHZ
+5V
+5A
+5B
+3V3_STBY_SW
V_HD_EXT
75OHM_ON
H_HD_EXT
V_SYNC_TTL
V_SYNC_POL_N
H_SYNC_TTL
H_SYNC_POL_N
V_SYNC_CMP
H_SYNC_CMP
VGA2_V
V_HD
VGA1_V
VGA2_OUTN
VGA2_EN_NOT
VGA2_H
H_HD
VGA1_H
H_PRESENT
C_SYNC_LM
V_SYNC_LM
VIDEO_SEL_2
SYNC_SEL
V_ADC
H_ADC
VGA2_OUT
Y_HD
C_SYNC_OUT
VGA2_EN
SHIELDING 3.3 1001
SHIELDING 3.3 1002
SHIELDING 3.3 1003
VS
O|E-FI
RSET
BG|BP
CSYNC
VIN
VSYNC
GND
VCC
VEE
MDX
1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I

3122 123 6001.7

CL 36532051_015.eps
140703

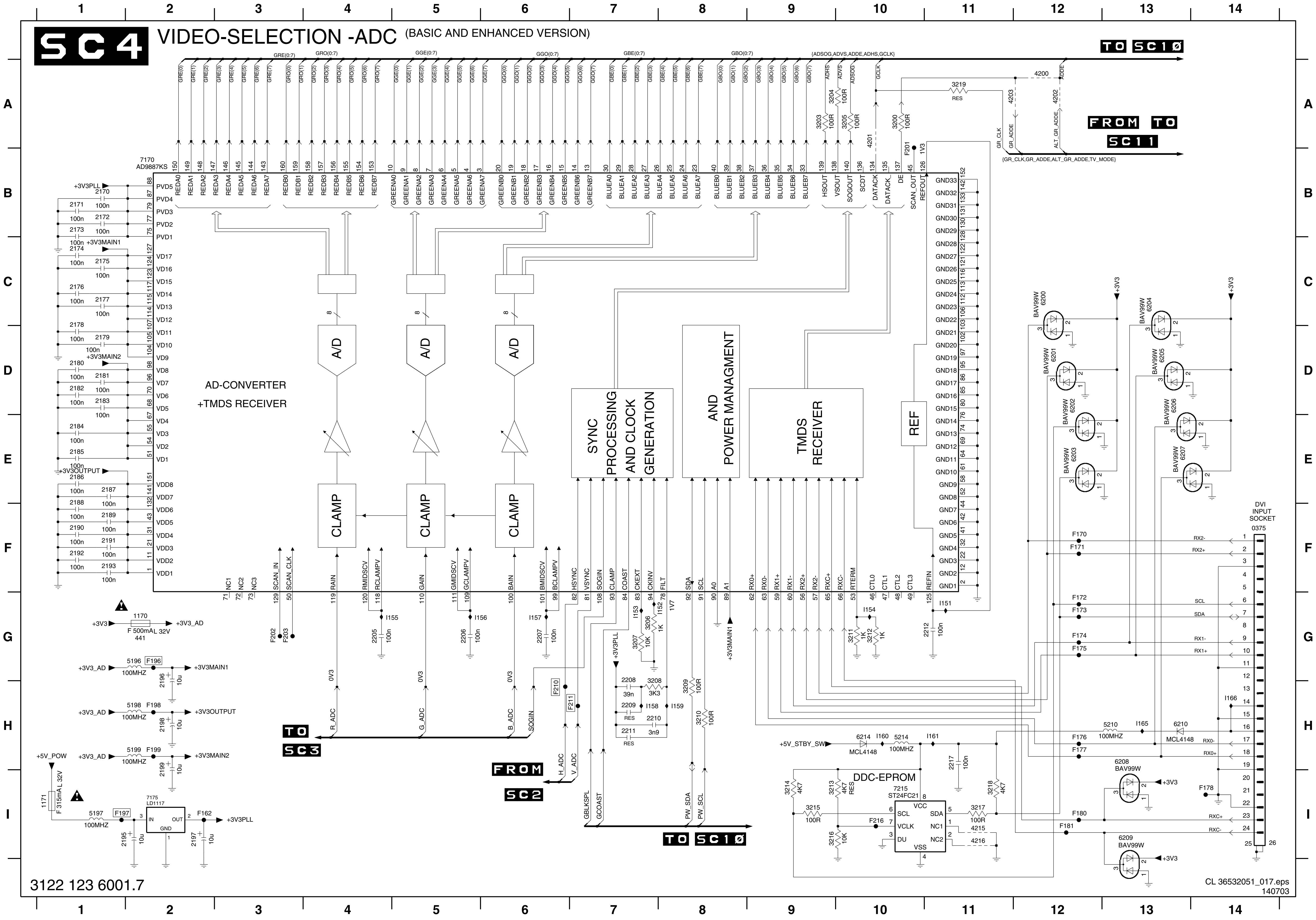
1001	I7
1002	I7
1003	I8
2000	A3
2001	B4
2002	C5
2003	C6
2004	D2
2005	E2
2007	F11
2008	C5
2009	B12
2012	D5
2014	E6
2015	E5
2020	F5
2021	F4
2022	G4
2030	H4
2034	I4
2040	G8
2041	G8
2042	G9
2060	I10
2061	H13
2066	E14
3000	A4
3001	C2
3002	C4
3003	C5
3004	C5
3005	C6
3006	D2
3007	E10
3008	E6
3010	E2
3011	D4
3012	E4
3013	E5
3014	D6
3015	E2
3019	B9
3020	F4
3021	F4
3022	G4
3023	G4
3024	G4
3025	G6
3026	F6
3030	H4
3031	H4
3032	I4
3033	H4
3034	H4
3035	H6
3036	H6
3040	G7
3041	F8
3042	G8
3043	H8
3044	H7
3045	G9
3050	G11
3051	G10
3052	G12
3053	H12
3054	G12
3060	I12
3061	H13
3065	F13
3066	E13
4006	B8
4007	D8
4009	E13
4010	C13
5000	A3
5007	F11
5009	A12
5020	E5
5060	H10
6001	C1
6007	E9
6009	C11
6010	E1
6019	B9
6022	G5
6034	I5
7000	B4
7001	B5
7002	B6
7006	C2
7007-A	A9
7007-B	F11
7007-C	C9
7009-A	A13
7009-B	C13
7010	E2
7025-A	H5
7025-B	F5
7040	G9
7041	G10
7060	I13
7065	F13
I000	A3
I001	F11
I002	A4
I003	B6
I004	B6
I005	C5
I006	C6
I007	C3
I008	D2
I009	D6
I010	D4
I011	D6
I012	E3
I013	E2
I014	E5
I015	F13
I016	F13
I017	F8
I018	F5
I019	F4
I020	F6
I021	F7
I022	G10
I023	G4
I024	G4
I025	G10
I026	G11
I027	H8
I028	H13
I029	H7
I030	H5
I031	H4
I032	H6
I033	H10
I034	H4
I035	H4
I036	H13
I037	I12
I038	A12
I039	G9
I040	D10
I041	A10

SCAVIO Panel: Video Selection & Matrix


SC3
VIDEO-SELECTION & MATRIX (ENHANCED ONLY UNLESS INDICATED OTHERWISE)
0377 SPEAKERLESS VERSION
TO SC2
CVBS + Y INPUT ONE BLOCK WITH AUDIO_YC + AUDIO_CVBS ON SC 13
0379-A COMBI
ONE BLOCK WITH AUDIO_RGB ON SC 13
0380-C COMBI
0380-B COMBI
NOT FOR SPEAKERLESS
V_HD_EXT
H_HD_EXT
MATRIX
VIDEO-SELECTION
4 X SWITCH
BASIC+ENHANCED
B+E
BASIC
RES
VIDEO_SEL_1
VIDEO_SEL_2
R_ADC
G_ADC
B_ADC
SOGIN
HD_CLAMPN
HD_BLANKN
MATRIX_SEL
VGA1_R
VGA2_R
VGA1_G
VGA2_G
VGA1_B
VGA2_B
74HC4052D
74HCT4053D
TSH93
BC847BW
BC857BW
PMBT2369
BZM55-C33
BZX384-C2V4
CLOSE TO 7118 IN LAYOUT
TO SC5 6 11
TO SC4 SC8
3122 123 6001.7
CL 36532051_016.eps
140703
1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I

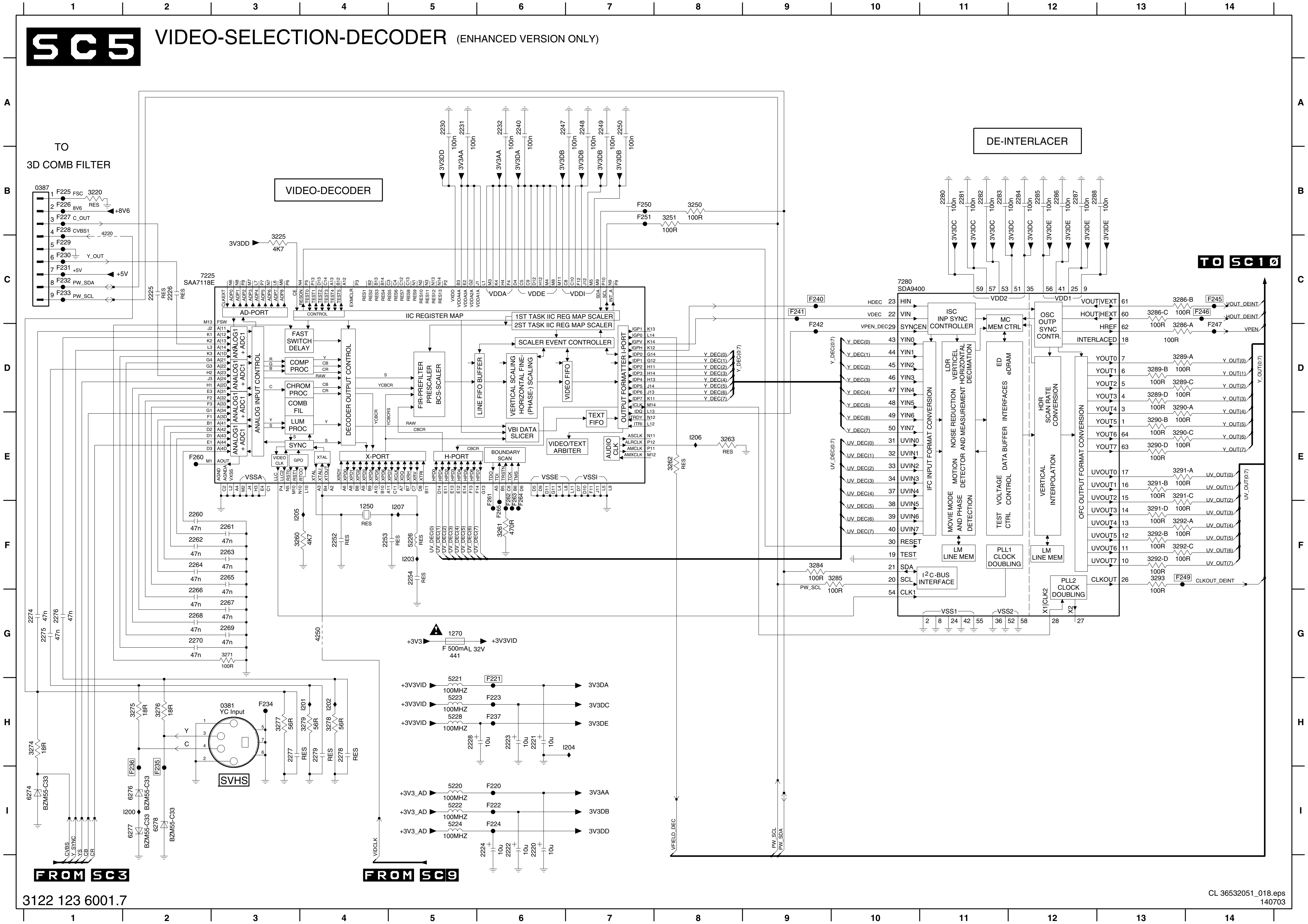
0377 A2
0379-A A2
0380-B A4
0380-C A3
2072 C3
2077 D3
2082 E3
2088 C6
2089 C7
2090 D6
2097 F6
2103 G6
2105 C10
2106 C9
2107 C9
2108 E8
2109 E7
2110 H7
2111 H8
2112 F2
2113 F3
2114 D6
2115 G3
2116 H2
2117 H3
2118 F3
2119 H3
2120 I2
2123 I3
2124 E6
2127 H6
2128 I6
2134 A6
2137 A9
2140 B10
2142 I10
2143 I10
2144 D10
2145 D12
2146 D14
2147 E10
2150 F10
2151 F14
2152 F14
2153 G10
2156 H10
2157 G12
2158 H14
2159 I10
2160 A12
2161 B12
2162 B12
2164 A13
2165 A13
2166 A13
2167 A14
2168 B14
3071 C2
3072 C2
3073 C3
3074 C3
3075 C4
3076 D2
3077 D2
3078 D3
3079 D3
3080 D4
3081 E2
3082 E2
3083 E3
3084 E3
3085 F4
3086 C5
3087 C5
3088 D5
3089 D6
3090 D5
3091 D5
3092 E5
3093 E6
3094 E5
3095 F5
3096 F5
3097 F6
3098 F5
3099 G5
3100 G5
3101 G5
3102 G5
3103 G6
3104 H5
3105 H5
3106 I5
3107 I6
3108 I5
3109 I5
3110 I5
3111 I6
3112 F1
3113 F2
3114 C5
3115 G2
3116 H1
3117 H2
3118 C6
3119 H2
3120 I1
3121 I2
3122 D5
3123 I3
3124 D6
3125 E5
3126 F6
3127 H5
3128 I6
3129 D13
3130 F13
3131 H13
3132 E13
3133 E14
3134 A6
3135 A7
3136 A7
3137 A8
3138 A9
3139 A9
3140 B10
3141 B11
3142 B11
3144 D10
3145 D10
3146 D11
3147 E10
3148 E10
3149 E11
3150 F10
3151 F10
3152 F11
3153 G10
3154 G10
3155 G11
3156 H10
3157 H10
3158 H11
3159 I10
3160 H10
3161 I11
3162 G13
3163 G13
3164 A13
3165 H13
3166 H13
3170 D9
3171 F9
3172 H9
3173 D9
3174 C10
3175 B9
3176 C9
3177 E7
3178 D7
3179 H7
3180 I7
3181 I8
3182 I9
3183 H8
3184 H8
3186 E9
3188 I11
3189 G11
3190 E11
3193 I3
3194 H3
3195 G3
4146 E13
4152 G13
4158 H13
5089 C7
5090 C7
5140 I10
5160 A12
5161 B12
5162 B12
5164 A13
5166 B14
5167 B14
5170 I1
5175 B10
5180 D8
6071 C2
6076 D2
6091 F2
6105 C9
6166 A14
7074 C3
7075 B4
7079 D3
7080 D4
7084 E3
7085 E4
7088-A C5
7088-B H5
7088-C F5
7089-A H7
7089-B F7
7089-C D7
7090-A D5
7090-B I5
7090-C G5
7100-A G8
7100-B E8
7100-C F8
7102 E7
7103 G7
7104 I8
7105 I8
7107 H9
7110 C7
7111 C8
7112 C8
7113 F2
7115 D10
7117 H2
7121 I2
7129 D13
7130 F13
7131 G13
7135 A7
7138 A9
7141 B11
7145 D11
7146-A C13
7146-B E13
7148 E10
7151 F11
7154 G10
7157 H11
7158-A G13
7158-B I13
7160 H11
7165 A14
F070 A2
F071 A3
F072 A5
F073 A2
F074 A3
F075 A5
F076 A3
F089 C7
F146 E14
F152 F14
F158 H14
I050 C4
I051 C2
I052 C3
I053 C4
I054 C6
I055 C5
I056 D5
I057 D3
I058 D6
I059 D2
I060 D3
I061 D5
I062 D3
I063 E5
I064 F5
I065 F6
I066 E3
I067 E2
I068 E3
I069 E3
I070 F5
I071 G5
I072 G6
I073 F2
I074 F2
I075 G5
I076 G3
I077 H5
I078 H6
I079 I5
I080 I5
I081 H2
I082 H2
I083 I6
I084 H3
I085 I5
I086 I2
I087 I2
I088 I3
I090 I7
I099 A13
I100 A13
I101 A14
I102 A6
I103 A7
I104 A7
I105 A8
I106 A9
I107 A10
I108 A12
I109 B10
I110 B11
I111 B11
I112 B14
I113 I10
I114 D10
I115 D11
I116 D11
I117 E10
I118 E10
I119 E11
I120 F10
I121 F11
I122 F11
I123 G10
I124 G10
I125 G11
I126 H10
I127 H11
I128 H11
I129 I10
I130 I11
I131 I10
I133 B13
I134 B13
I135 I2
I137 I8
I138 H8
I139 H6
I140 H7
I141 E6
I142 E7
I143 B7
I144 B10
I145 C8
I146 C10
I147 C9
I148 H8
I149 I8
I150 I8

SCAVIO Panel: Video Selection ADC


SC4
VIDEO-SELECTION -ADC (BASIC AND ENHANCED VERSION)
TO SC10
FROM TO SC11
7170
AD9887KS
AD-CONVERTER
+TMDS RECEIVER
A/D
A/D
A/D
CLAMP
CLAMP
CLAMP
SYNC PROCESSING AND CLOCK GENERATION
AND POWER MANAGMENT
TMDS RECEIVER
REF
GRE(0:7)
GRO(0:7)
GGE(0:7)
GGO(0:7)
GBE(0:7)
GBO(0:7)
(ADSOG,ADVS,ADDE,ADHS,GCLK)
(GR_CLK,GR_ADDE,ALT_GR_ADDE,TV_MODE)
REDA0 REDA1 REDA2 REDA3 REDA4 REDA5 REDA6 REDA7
REDB0 REDB1 REDB2 REDB3 REDB4 REDB5 REDB6 REDB7
GREENA0 GREENA1 GREENA2 GREENA3 GREENA4 GREENA5 GREENA6 GREENA7
GREENB0 GREENB1 GREENB2 GREENB3 GREENB4 GREENB5 GREENB6 GREENB7
BLUEA0 BLUEA1 BLUEA2 BLUEA3 BLUEA4 BLUEA5 BLUEA6 BLUEA7
BLUEB0 BLUEB1 BLUEB2 BLUEB3 BLUEB4 BLUEB5 BLUEB6 BLUEB7
HSOUT VSOUT SOGOUT SCDT DATACK DATACK DE SCAN_OUT REFOUT
PVD5 PVD4 PVD3 PVD2 PVD1
VD17 VD16 VD15 VD14 VD13 VD12 VD11 VD10 VD9 VD8 VD7 VD6 VD5 VD4 VD3 VD2 VD1
VDD8 VDD7 VDD6 VDD5 VDD4 VDD3 VDD2 VDD1
NC1 NC2 NC3 SCAN_IN SCAN_CLK RAIN RMIDSCV RCLAMPV GAIN GMIDSCV GCLAMPV BAIN BMIDSCV BCLAMPV HSYNC VSYNC SOGIN CLAMP COAST CKEXT CKINV FILT SDA SCL A0 A1 RX0+ RX0- RX1+ RX1- RX2+ RX2- RXC+ RXC- RTERM CTL0 CTL1 CTL2 CTL3 REFIN
GND33 GND32 GND31 GND30 GND29 GND28 GND27 GND26 GND25 GND24 GND23 GND22 GND21 GND20 GND19 GND18 GND17 GND16 GND15 GND14 GND13 GND12 GND11 GND10 GND9 GND8 GND7 GND6 GND5 GND4 GND3 GND2 GND1
+3V3PLL
+3V3MAIN1
+3V3MAIN2
+3V3OUTPUT
1170
F 500mA L 32V
441
+3V3
+3V3_AD
5196 F196 100MHZ
5198 F198 100MHZ
5199 F199 100MHZ
+5V_POW
1171
F 315mA L 32V
5197 F197 100MHZ
7175 LD1117
IN OUT GND
F162
+3V3PLL
R_ADC G_ADC B_ADC SOGIN
TO SC3
FROM SC2
H_ADC V_ADC
GBLKSPL GCOAST
PW_SDA PW_SCL
TO SC10
2208 39n
3208 3K3
2209 RES
2210 3n9
2211 RES
3209 100R
3210 100R
3206 1K
3207 10K
1V7
3211 1K
3212 1K
2212 100n
I151
+5V_STBY_SW
6214 MCL4148
I160
5214 100MHZ
I161
2217 100n
DDC-EPROM
7215 ST24FC21
SCL SDA VCLK NC1 DU NC2 VCC VSS
3213 4K7 RES
3214 4K7
3215 100R
3216 10K
3217 100R
3218 4K7
4215
4216
F216
3219 RES
4200
4201
4202
4203
3200 100R
3203 100R
3204 100R
3205 100R
F201 1V3
GR_CLK GR_ADDE ALT_GR_ADDE ADDE
BAV99W 6200
BAV99W 6201
BAV99W 6202
BAV99W 6203
BAV99W 6204
BAV99W 6205
BAV99W 6206
BAV99W 6207
+3V3
DVI INPUT SOCKET
0375
RX2- RX2+ SCL SDA RX1- RX1+ RX0- RX0+ RXC+ RXC-
F170 F171 F172 F173 F174 F175 F176 F177 F178 F180 F181
5210 100MHZ
I165
6210 MCL4148
I166
6208 BAV99W
6209 BAV99W
3122 123 6001.7
CL 36532051_017.eps
140703

0375	F14
1170	G2
1171	I1
2170	B1
2171	B1
2172	B1
2173	B1
2174	C1
2175	C1
2176	C1
2177	C1
2178	D1
2179	D1
2180	D1
2181	D1
2182	D1
2183	D1
2184	E1
2185	E1
2186	E1
2187	E1
2188	F1
2189	F1
2190	F1
2191	F1
2192	F1
2193	F1
2195	I2
2196	G2
2197	I2
2198	H2
2199	H2
2205	G4
2206	G5
2207	G6
2208	H7
2209	H7
2210	H7
2211	H7
2212	G11
2217	H11
3200	A10
3203	A9
3204	A9
3205	A10
3206	G7
3207	G7
3208	H7
3209	H8
3210	H8
3211	G10
3212	G10
3213	I9
3214	I9
3215	I9
3216	I9
3217	I11
3218	I11
3219	A11
4200	A12
4201	A10
4202	A12
4203	A11
4215	I11
4216	I11
5196	G2
5197	I1
5198	H2
5199	H2
5210	H13
5214	H10
6200	C12
6201	D12
6202	D12
6203	E12
6204	C13
6205	D13
6206	D13
6207	E13
6208	H13
6209	I13
6210	H13
6214	H10
7170	B2
7175	I2
7215	I10
F162	I2
F170	F12
F171	F12
F172	G12
F173	G12
F174	G12
F175	G12
F176	H12
F177	H12
F178	I14
F180	I12
F181	I12
F196	G2
F197	I1
F198	H2
F199	H2
F201	B10
F202	G3
F203	G3
F210	H6
F211	H7
F216	I10
I151	G11
I152	G8
I153	G7
I154	G10
I155	G5
I156	G6
I157	G6
I158	H7
I159	H8
I160	H10
I161	H11
I165	H13
I166	H14

SCAVIO Panel: Video Selection Decoder


SC5
VIDEO-SELECTION-DECODER (ENHANCED VERSION ONLY)
TO 3D COMB FILTER
VIDEO-DECODER
DE-INTERLACER
TO SC10
7225 SAA7118E
7280 SDA9400
AD-PORT
IIC REGISTER MAP
1ST TASK IIC REG MAP SCALER
2ST TASK IIC REG MAP SCALER
SCALER EVENT CONTROLLER
FAST SWITCH DELAY
COMP PROC
CHROM PROC
COMB FIL
LUM PROC
SYNC
ANALOG INPUT CONTROL
DECODER OUTPUT CONTROL
FIR-PREFILTER PRESCALER BCS-SCALER
LINE FIFO BUFFER
VERTICAL SCALING HORIZONTAL FINE-(PHASE-) SCALING
VIDEO FIFO
OUTPUT FORMATTER I-PORT
TEXT FIFO
VBI DATA SLICER
VIDEO/TEXT ARBITER
AUDIO CLK
X-PORT
H-PORT
BOUNDARY SCAN
ISC INP SYNC CONTROLLER
MC MEM CTRL
OSC OUTP SYNC CONTR.
IFC INPUT FORMAT CONVERSION
LDR VERTICAL HORIZONTAL DECIMATION
NOISE REDUCTION MOTION DETECTOR AND MEASUREMENT
MOVIE MODE AND PHASE DETECTION
ED eDRAM
DATA BUFFER INTERFACES
TEST CTRL VOLTAGE CONTROL
HDR SCAN RATE CONVERSION
VERTICAL INTERPOLATION
OFC OUTPUT FORMAT CONVERSION
LM LINE MEM
PLL1 CLOCK DOUBLING
PLL2 CLOCK DOUBLING
I2C-BUS INTERFACE
0381 YC Input
SVHS
F 500mAL 32V 441
+3V3VID
+3V3_AD
3V3DA
3V3DC
3V3DE
3V3AA
3V3DB
3V3DD
FROM SC3
FROM SC9
CVBS
Y_SYNC
YS
CB
CR
VIDCLK
VFIELD_DEC
PW_SCL
PW_SDA
Y_OUT(0:7)
UV_OUT(0:7)
CLKOUT_DEINT
VOUT_DEINT
HOUT_DEINT
VPEN

3122 123 6001.7

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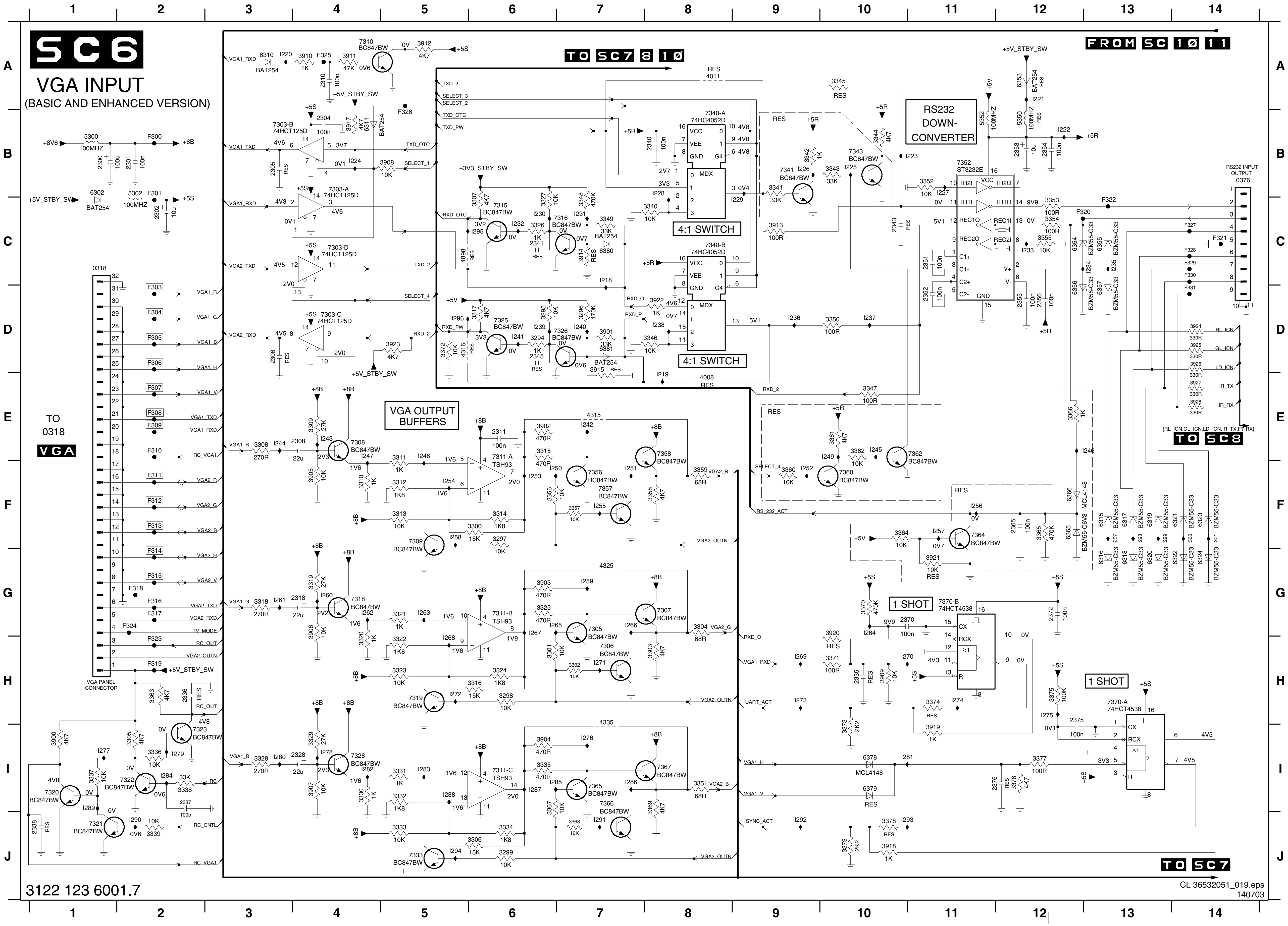
0381 H3	F237 H6
0387 B1	F240 C9
1250 F4	F241 C9
1270 G5	F242 D9
2220 I6	F245 C14
2221 H6	F246 C14
2222 I6	F247 D14
2223 H6	F249 F13
2224 I6	F250 B7
2225 C2	F251 B7
2226 C2	F260 E2
2228 H5	F261 E6
2230 A5	F262 E6
2231 A5	F263 E6
2232 A6	F264 E6
2240 A6	F265 F6
2247 A6	I200 I2
2248 A7	I201 H4
2249 A7	I202 H4
2250 A7	I203 F5
2252 F4	I204 H7
2253 F4	I205 F3
2254 F5	I206 E8
2260 F2	I207 F5
2261 F3	
2262 F2	
2263 F3	
2264 F2	
2265 F3	
2266 G2	
2267 G3	
2268 G2	
2269 G3	
2270 G2	
2274 G1	
2275 G1	
2276 G1	
2277 H3	
2278 H4	
2279 H4	
2280 B11	
2281 B11	
2282 B11	
2283 B11	
2284 B12	
2285 B12	
2286 B12	
2287 B12	
2288 B12	
3220 B1	
3225 C3	
3250 B8	
3251 B8	
3260 F3	
3261 F6	
3262 E8	
3263 E8	
3271 G3	
3274 H1	
3275 H2	
3276 H2	
3277 H3	
3278 H4	
3279 H4	
3284 F9	
3285 F10	
3286-A D13	
3286-B C13	
3286-C C13	
3289-A D13	
3289-B D13	
3289-C D13	
3289-D D13	
3290-A D13	
3290-B E13	
3290-C E13	
3290-D E13	
3291-A E13	
3291-B E13	
3291-C E13	
3291-D F13	
3292-A F13	
3292-B F13	
3292-C F13	
3292-D F13	
3293 F13	
4220 C1	
4250 G4	
5220 I5	
5221 H5	
5222 I5	
5223 H5	
5224 I5	
5226 F5	
5228 H5	
6274 I1	
6276 I2	
6277 I2	
6278 I2	
7225 C3	
7280 C10	
F220 I6	
F221 H6	
F222 I6	
F223 H6	
F224 I6	
F225 B1	
F226 B1	
F227 B1	
F228 B1	
F229 C1	
F230 C1	
F231 C1	
F232 C1	
F233 C1	
F234 H3	
F235 I2	
F236 I2	

SCAVIO Panel: VGA Input


SC6
VGA INPUT
(BASIC AND ENHANCED VERSION)
TO SC7 8 10
FROM SC 10 11
TO SC8
TO SC7
TO 0318
VGA
VGA PANEL CONNECTOR
0318
RS232 DOWN-CONVERTER
7352 ST3232E
4:1 SWITCH
7340-A 74HC4052D
7340-B 74HC4052D
VGA OUTPUT BUFFERS
7311-A TSH93
7311-B TSH93
7311-C TSH93
1 SHOT
7370-A 74HCT4538
7370-B 74HCT4538
7303-A 74HCT125D
7303-B 74HCT125D
7303-C 74HCT125D
7303-D 74HCT125D
RS232 INPUT OUTPUT 0376
+8V6
+8B
+5V_STBY_SW
+5S
+5R
+3V3_STBY_SW
VGA1_RXD
VGA1_TXD
VGA2_TXD
VGA2_RXD
TXD_2
SELECT_3
SELECT_2
TXD_OTC
TXD_PW
RXD_OTC
RXD_PW
RXD_2
SELECT_1
SELECT_4
RXD_O
RXD_P
VGA1_R
VGA1_G
VGA1_B
VGA1_H
VGA1_V
VGA2_R
VGA2_G
VGA2_B
VGA2_H
VGA2_V
VGA2_OUTN
RC_VGA1
TV_MODE
RC_OUT
RC_CNTL
RC
RS_232_ACT
UART_ACT
SYNC_ACT
RL_ICN
GL_ICN
LD_ICN
IR_TX
IR_RX
{RL_ICN,GL_ICN,LD_ICN,IR_TX,IR_RX}
1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I J

3122 123 6001.7

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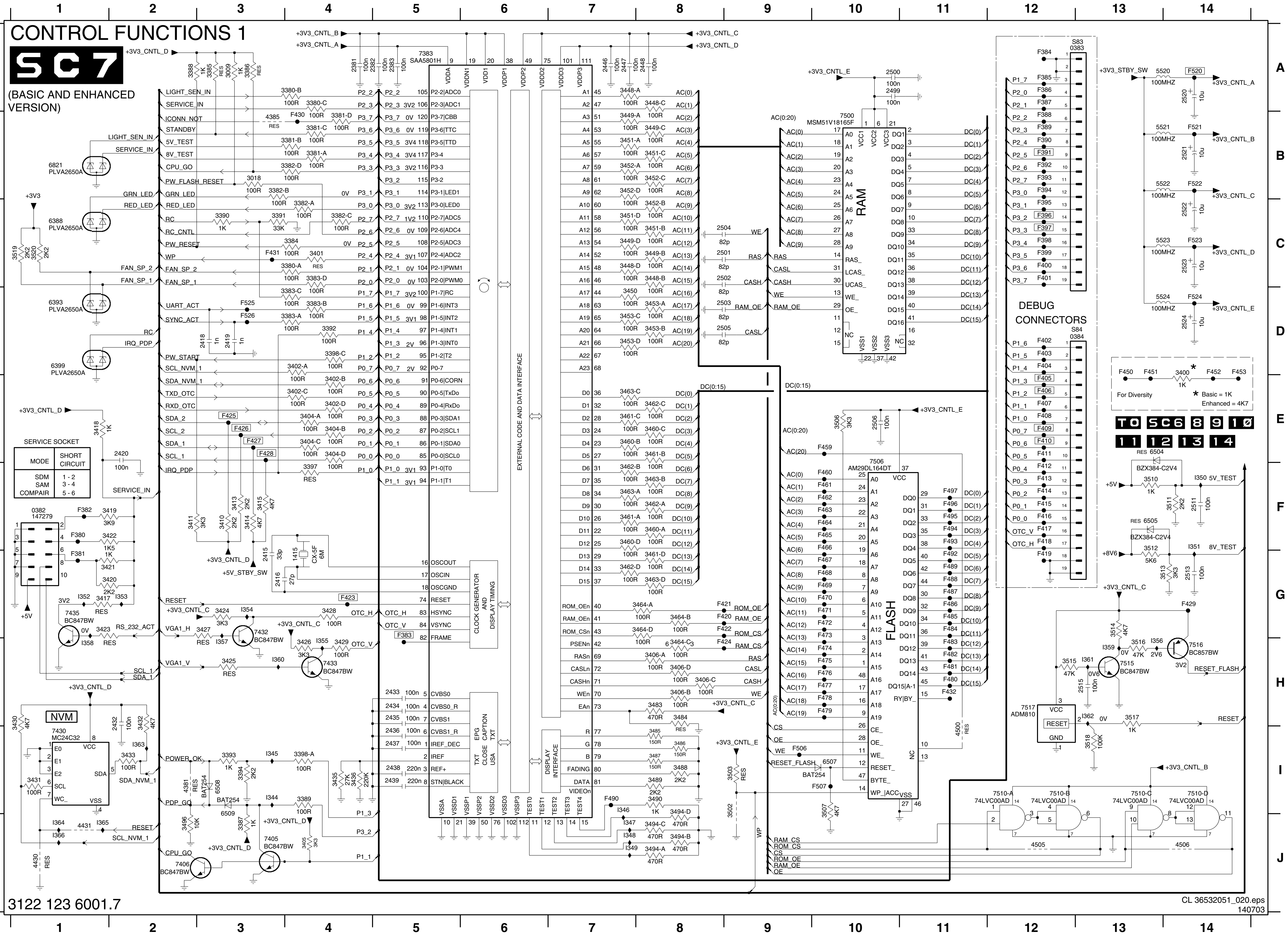
0318	C1
0376	B14
2300	B1
2301	B2
2302	B2
2304	B4
2305	B3
2306	D3
2308	E4
2310	A4
2311	E6
2318	G4
2328	I4
2335	H10
2336	H2
2337	I2
2338	J1
2340	B8
2341	C6
2343	C10
2345	D6
2351	C11
2352	D11
2353	B12
2354	B12
2355	D12
2356	D12
2365	F12
2370	G10
2372	G12
2375	H12
2376	I12
3294	D6
3295	D6
3296	D7
3297	F6
3298	H6
3299	J6
3300	F6
3301	H6
3302	H7
3303	H8
3304	G8
3305	I2
3306	J6
3307	C6
3308	E3
3309	E4
3310	F4
3311	E5
3312	F5
3313	F5
3314	F6
3315	E6
3316	H6
3317	D6
3318	G3
3319	G4
3320	H4
3321	G5
3322	H5
3323	H5
3324	H6
3325	G6
3326	C6
3327	C6
3328	I3
3329	I4
3330	I4
3331	I5
3332	I5
3333	J5
3334	J6
3335	I6
3336	I2
3337	I1
3338	I2
3339	J2
3340	C8
3341	B9
3342	B9
3343	B10
3344	B10
3345	A10
3346	D8
3347	E10
3348	C7
3349	C7
3350	D10
3351	I8
3352	B11
3353	C12
3354	C12
3355	C12
3356	F6
3357	F7
3358	F8
3359	F8
3360	F9
3361	E10
3362	E10
3363	H2
3364	F10
3365	F12
3366	E12
3367	I6
3368	J7
3369	I8
3370	G10
3371	H10
3372	D5
3373	I10
3374	H11
3375	H12
3376	I12
3377	I12
3378	J10
3379	J10
3900	I1
3901	D7
3902	E6
3903	G6
3904	I6
3905	F4
3906	G4
3907	I4
3908	B5
3909	H10
3910	A4
3911	A4
3912	A5
3913	C9
3914	C7
3915	D7
3917	B4
3918	J10
3919	I11
3920	G10
3921	G11
3922	D8
3923	D5
3924	D14
3925	D14
3926	D14
3927	E14
3928	E14
4008	E8
4011	A8
4315	E7
4316	D5
4325	G7
4335	I7
4898	C5
5300	B1
5302	B2
5350	B12
5352	B11
6302	B1
6310	A3
6311	B4
6315	F13
6316	G13
6317	F13
6318	G13
6319	F13
6320	G13
6321	F14
6322	G14
6323	F14
6324	G14
6353	A12
6354	C12
6355	C13
6356	D12
6357	D13
6365	F12
6366	F12
6378	I10
6379	I10
6380	C7
6381	D7
7303-A	B4
7303-B	B4
7303-C	D4
7303-D	C4
7305	G7
7306	H7
7307	G8
7308	E4
7309	F5
7310	A4
7311-A	E6
7311-B	G6
7311-C	I6
7315	C6
7316	C7
7318	G4
7319	H5
7320	I1
7321	J1
7322	I2
7323	I2
7325	D6
7326	D7
7328	I4
7333	J5
7340-A	B8
7340-B	C8
7341	B9
7343	B10
7352	B11
7356	F7
7357	F7
7358	E8
7360	F10
7362	E11
7364	F11
7365	I7
7366	I7
7367	I8
7370-A	H13
7370-B	G11
F300	B2
F301	B2
F303	D2
F304	D2
F305	D2
F306	D2
F307	E2
F308	E2
F309	E2
F310	E2
F311	F2
F312	F2
F313	F2
F314	G2
F315	G2
F316	G2
F317	G2
F318	G2
F319	H2
F320	C12
F321	C14
F322	C13
F323	H2
F324	G2
F325	A4
F326	B5
F327	C14
F328	C14
F329	C14
F330	C14
F331	D14
I218	C7
I219	E8
I220	A3
I221	A12
I222	B12
I223	B11
I224	B4
I225	B10
I226	B9
I227	B11
I228	B8
I229	C9
I230	C6
I231	C7
I232	C6
I233	C12
I234	C13
I235	C13
I236	D9
I237	D10
I238	D8
I239	D6
I240	D7
I241	D6
I242	E7
I243	E4
I244	E3
I245	E10
I246	E13
I247	E4
I248	E5
I249	E10
I250	F6
I251	F7
I252	F9
I253	F6
I254	F5
I255	F7
I256	F11
I257	F11
I258	F5
I259	G7
I260	G4
I261	G3
I262	G4
I263	G5
I264	G10
I265	G6
I266	G7
I267	G6
I268	H5
I269	H9
I270	H10
I271	H7
I272	H5
I273	H9
I274	H11
I275	H12
I276	I7
I277	I1
I278	I4
I279	I2
I280	I3
I281	I10
I282	I4
I283	I5
I284	I2
I285	I6
I286	I7
I287	I6
I288	I5
I289	I1
I290	J2
I291	J7
I292	J9
I293	J10
I294	J5
I295	C6
I296	D5
I297	F13
I298	F13
I299	F13
I300	F14
I301	F14

SCAVIO Panel: Control Functions 1


CONTROL FUNCTIONS 1
SC7
(BASIC AND ENHANCED VERSION)
7383 SAA5801H
EXTERNAL CODE AND DATA INTERFACE
CLOCK GENERATOR AND DISPLAY TIMING
EPG CAPTION TXT CLOSE USA
DISPLAY INTERFACE
7500 MSM51V18165F
RAM
7506 AM29DL164DT
FLASH
DEBUG CONNECTORS
S83 0383
S84 0384
SERVICE SOCKET
MODE
SHORT CIRCUIT
SDM 1 - 2
SAM 3 - 4
COMPAIR 5 - 6
0382 147279
NVM
7430 MC24C32
6821 PLVA2650A
6388 PLVA2650A
6393 PLVA2650A
6399 PLVA2650A
7435 BC847BW
7432 BC847BW
7433 BC847BW
7405 BC847BW
7406 BC847BW
7515 BC847BW
7516 BC857BW
7517 ADM810
6504 BZX384-C2V4
6505 BZX384-C2V4
7510-A 74LVC00AD
7510-B 74LVC00AD
7510-C 74LVC00AD
7510-D 74LVC00AD
1415 CX-5F 6M
For Diversity
* Basic = 1K
Enhanced = 4K7
T0 SC6 8 9 10
11 12 13 14
+3V3_CNTL_A
+3V3_CNTL_B
+3V3_CNTL_C
+3V3_CNTL_D
+3V3_CNTL_E
+3V3_STBY_SW
+5V_STBY_SW
LIGHT_SEN_IN
SERVICE_IN
ICONN_NOT
STANDBY
5V_TEST
8V_TEST
CPU_GO
PW_FLASH_RESET
GRN_LED
RED_LED
RC
RC_CNTL
PW_RESET
WP
FAN_SP_2
FAN_SP_1
UART_ACT
SYNC_ACT
IRQ_PDP
PW_START
SCL_NVM_1
SDA_NVM_1
TXD_OTC
RXD_OTC
SDA_2
SCL_2
SDA_1
SCL_1
RESET
VGA1_H
VGA1_V
RS_232_ACT
OTC_H
OTC_V
POWER_OK
PDP_GO
RESET_FLASH
ROM_OE
RAM_OE
ROM_CS
RAM_CS
RAS
CASL
CASH
WE
AC(0:20)
DC(0:15)
3122 123 6001.7
CL 36532051_020.eps
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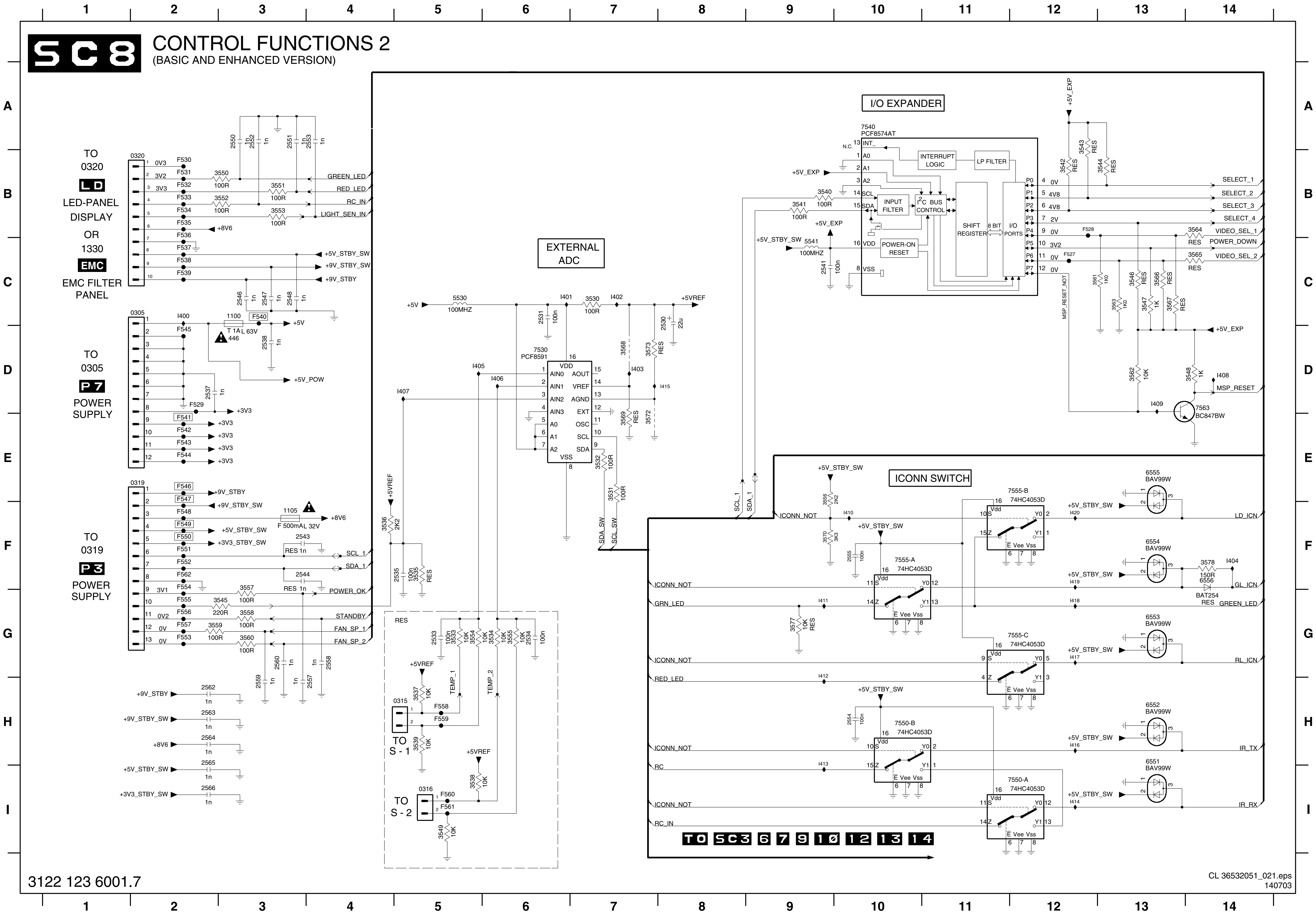
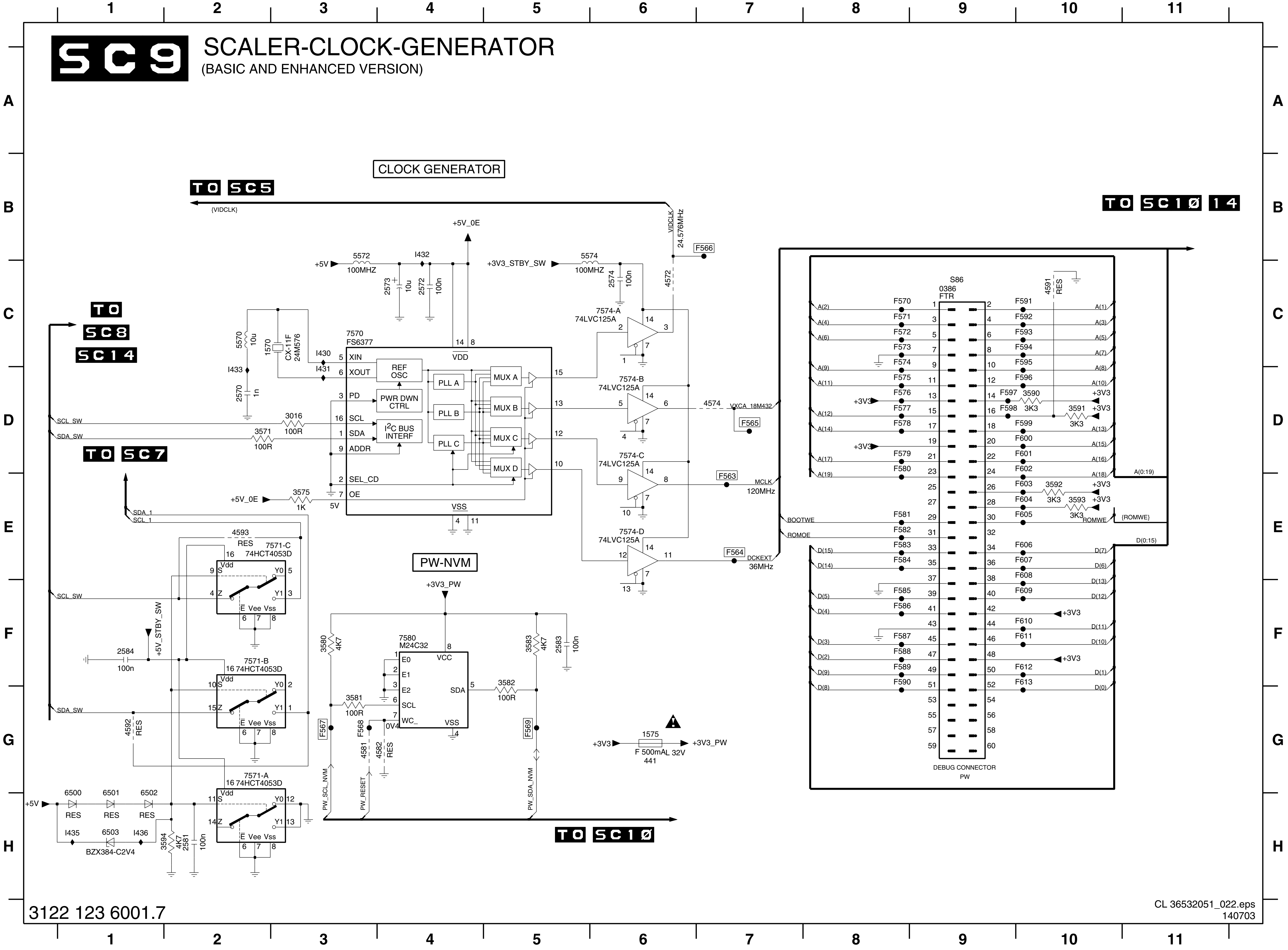
0382	F1
0383	A12
0384	D12
1415	G4
2381	A4
2382	A5
2383	A5
2415	G3
2416	G3
2418	D3
2419	D3
2420	E2
2432	H2
2433	H5
2434	H5
2435	H5
2436	I5
2437	I5
2438	I5
2439	I5
2446	A7
2447	A7
2448	A8
2499	A10
2500	A10
2501	C8
2502	C8
2503	D8
2504	C8
2505	D8
2506	E10
2511	F14
2513	G14
2515	H13
2520	A14
2521	B14
2522	C14
2523	C14
2524	D14
3009	A3
3018	B3
3380-A	C4
3380-B	A4
3380-C	A4
3381-A	B4
3381-B	B4
3381-C	B4
3381-D	B4
3382-A	C4
3382-B	B3
3382-C	C4
3382-D	B4
3383-A	D4
3383-B	D4
3383-C	D4
3383-D	C4
3384	C4
3385	A3
3386	A3
3387	J3
3388	A2
3389	I4
3390	C3
3391	C3
3392	D4
3393	I3
3394	I3
3397	F4
3398-A	I4
3398-C	D4
3400	D14
3401	C4
3402-A	D4
3402-B	E4
3402-C	E4
3402-D	E4
3404-A	E4
3404-B	E4
3404-C	E4
3404-D	E4
3405	J4
3406-A	H8
3406-B	H8
3406-C	H8
3406-D	H8
3410	F3
3411	F2
3413	F3
3414	F3
3415	F3
3417	G1
3418	E1
3419	F2
3420	G2
3421	G1
3422	F2
3423	G1
3424	G3
3425	H3
3426	H4
3427	G3
3428	G4
3429	H4
3430	H1
3431	I1
3432	H2
3433	I2
3435	I4
3436	I4
3448-A	A7
3448-B	C8
3448-C	A8
3448-D	C7
3449-A	B7
3449-B	C8
3449-C	B8
3449-D	C7
3450	D7
3451-A	B7
3451-B	C8
3451-C	B8
3451-D	C7
3452-A	B7
3452-B	C8
3452-C	B8
3452-D	B7
3453-A	D8
3453-B	D8
3453-C	D7
3453-D	D7
3460-A	F8
3460-B	E7
3460-C	E8
3460-D	F7
3461-A	F7
3461-B	E8
3461-C	E7
3461-D	G8
3462-A	F8
3462-B	F7
3462-C	E8
3462-D	G7
3463-A	F7
3463-B	F8
3463-C	E7
3463-D	G8
3464-A	G8
3464-B	G8
3464-C	H8
3464-D	G8
3483	H8
3484	H8
3485	I8
3486	I8
3487	I8
3488	I8
3489	I8
3490	I8
3494-A	J8
3494-B	J8
3494-C	J8
3494-D	I8
3496	J2
3502	I9
3503	I9
3506	E10
3507	I10
3510	F13
3511	F14
3512	F13
3513	G14
3514	G13
3515	H12
3516	H13
3517	H13
3518	I13
3519	C1
3520	C1
4381	I2
4385	B3
4430	J1
4431	J1
4500	I11
4505	J12
4506	J14
5520	A13
5521	B13
5522	B13
5523	C13
5524	D13
6388	C1
6393	D1
6399	D1
6504	E13
6505	F13
6507	I10
6508	I3
6509	J3
6821	B1
7383	A5
7405	J3
7406	J2
7430	I1
7432	G3
7433	H4
7435	G1
7500	B10
7506	F10
7510-A	I12
7510-B	I12
7510-C	I13
7510-D	I14
7515	H13
7516	H14
7517	H12
F380	F1
F381	G1
F382	F1
F383	G5
F384	A12
F385	A12
F386	A12
F387	A12
F388	B12
F389	B12
F390	B12
F391	B12
F392	B12
F393	B12
F394	B12
F395	C12
F396	C12
F397	C12
F398	C12
F399	C12
F400	C12
F401	C12
F402	D12
F403	D12
F404	D12
F405	E12
F406	E12
F407	E12
F408	E12
F409	E12
F410	E12
F411	E12
F412	F12
F413	F12
F414	F12
F415	F12
F416	F12
F417	F12
F418	F12
F419	G12
F420	G9
F421	G9
F422	G9
F423	G4
F424	H9
F425	E3
F426	E3
F427	E3
F428	E3
F429	G14
F430	B4
F431	C3
F432	H11
F450	D13
F451	D13
F452	D14
F453	D14
F459	E10
F460	F10
F461	F10
F462	F10
F463	F10
F464	F10
F465	F10
F466	F10
F467	G10
F468	G10
F469	G10
F470	G10
F471	G10
F472	G10
F473	G10
F474	H10
F475	H10
F476	H10
F477	H10
F478	H10
F479	H10
F480	H11
F481	H11
F482	H11
F483	H11
F484	G11
F485	G11
F486	G11
F487	G11
F488	G11
F489	G11
F490	I7
F492	G11
F493	F11
F494	F11
F495	F11
F496	F11
F497	F11
F506	I9
F507	I10
F520	A14
F521	B14
F522	B14
F523	C14
F524	D14
F525	D3
F526	D3
I344	I3
I345	I3
I346	I7
I347	J7
I348	J7
I349	J7
I350	F14
I351	F14
I352	G1
I353	G2
I354	G3
I355	H4
I356	H13
I357	H3
I358	H1
I359	H13
I360	H3
I361	H13
I362	H13
I363	I2
I364	J1
I365	J1
I366	J1

SCAVIO Panel: Control Functions 2


SC8
CONTROL FUNCTIONS 2
(BASIC AND ENHANCED VERSION)
TO 0320
LD
LED-PANEL DISPLAY
OR 1330
EMC
EMC FILTER PANEL
TO 0305
P7
POWER SUPPLY
TO 0319
P3
POWER SUPPLY
GREEN_LED
RED_LED
RC_IN
LIGHT_SEN_IN
+5V_STBY_SW
+9V_STBY_SW
+9V_STBY
+5V
+5V_POW
+3V3
+8V6
+3V3_STBY_SW
SCL_1
SDA_1
POWER_OK
STANDBY
FAN_SP_1
FAN_SP_2
T 1AL 63V
F 500mAL 32V
EXTERNAL ADC
7530
PCF8591
+5VREF
TEMP_1
TEMP_2
TO S - 1
TO S - 2
RES
I/O EXPANDER
7540
PCF8574AT
INTERRUPT LOGIC
LP FILTER
INPUT FILTER
I²C BUS CONTROL
SHIFT REGISTER
8 BIT
I/O PORTS
POWER-ON RESET
+5V_EXP
SELECT_1
SELECT_2
SELECT_3
SELECT_4
VIDEO_SEL_1
POWER_DOWN
VIDEO_SEL_2
MSP_RESET
MSP_RESET_NOT
7563
BC847BW
ICONN SWITCH
ICONN_NOT
GRN_LED
RED_LED
RC
RC_IN
7555-A 74HC4053D
7555-B 74HC4053D
7555-C 74HC4053D
7550-A 74HC4053D
7550-B 74HC4053D
6551 BAV99W
6552 BAV99W
6553 BAV99W
6554 BAV99W
6555 BAV99W
6556 BAT254
LD_ICN
GL_ICN
GREEN_LED
RL_ICN
IR_TX
IR_RX
SCL_SW
SDA_SW
SCL_1
SDA_1
TO SC3 6 7 9 10 12 13 14
3122 123 6001.7
CL 36532051_021.eps
140703

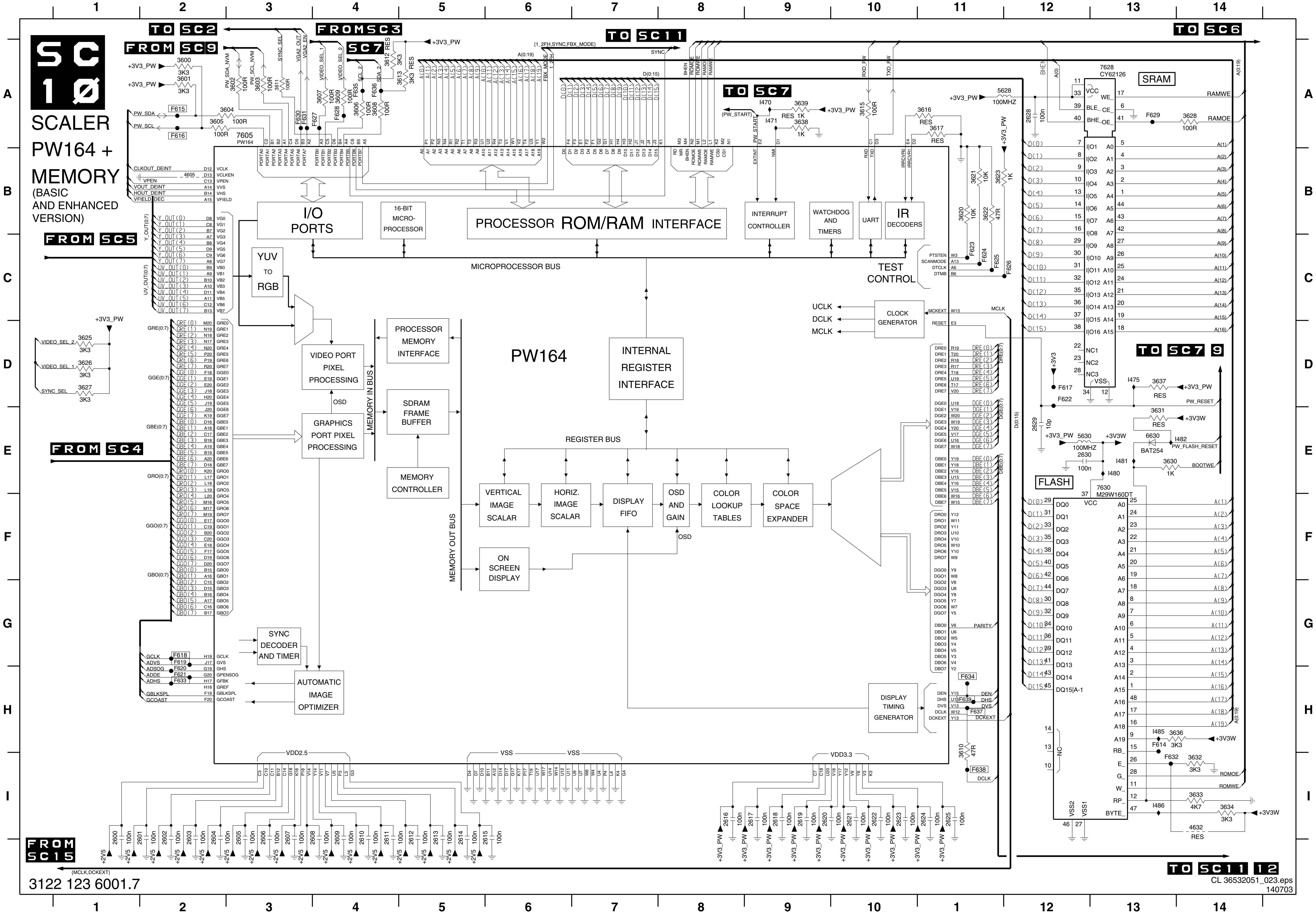
0305	C2
0315	H5
0316	I5
0319	E2
0320	B2
1100	C3
1105	F3
2530	C8
2531	C6
2533	G5
2534	G6
2535	F5
2537	D2
2538	D3
2541	C9
2543	F3
2544	F3
2546	C3
2547	C3
2548	C3
2550	A3
2551	A3
2552	A3
2553	A4
2554	H10
2555	F10
2557	H4
2558	G4
2559	H3
2560	G3
2562	H2
2563	H2
2564	H2
2565	H2
2566	I2
3530	C7
3531	E7
3532	E7
3533	G5
3534	G6
3535	F5
3536	F4
3537	H5
3538	I5
3539	H5
3540	B9
3541	B9
3542	B12
3543	A12
3544	B13
3545	G3
3546	C13
3547	C13
3548	D14
3549	I5
3550	B3
3551	B3
3552	B3
3553	B3
3554	G5
3555	G6
3556	E9
3557	G3
3558	G3
3559	G2
3560	G3
3561	C12
3562	D13
3563	C13
3564	B14
3565	C14
3566	C13
3567	C13
3568	D7
3569	E7
3570	F9
3572	E7
3573	D7
3577	G9
3578	F14
5530	C5
5541	C9
6551	H13
6552	H13
6553	G13
6554	F13
6555	E13
6556	F14
7530	D6
7540	A10
7550-A	I12
7550-B	H10
7555-A	F10
7555-B	E12
7555-C	G12
7563	D14
F527	C12
F528	B12
F529	D2
F530	B2
F531	B2
F532	B2
F533	B2
F534	B2
F535	B2
F536	B2
F537	C2
F538	C2
F539	C2
F540	C3
F541	E2
F542	E2
F543	E2
F544	E2
F545	D2
F546	E2
F547	E2
F548	F2
F549	F2
F550	F2
F551	F2
F552	F2
F553	G2
F554	F2
F555	G2
F556	G2
F557	G2
F558	H5
F559	H5
F560	I5
F561	I5
F562	F2
I400	C2
I401	C6
I402	C7
I403	D7
I404	F14
I405	D5
I406	D6
I407	D5
I408	D14
I409	D13
I410	F10
I411	G9
I412	G9
I413	H9
I414	I12
I415	D8
I416	H12
I417	G12
I418	G12
I419	F12
I420	F12

SCAVIO Panel: Scaler Clock Generator


SC9
SCALER-CLOCK-GENERATOR
(BASIC AND ENHANCED VERSION)
CLOCK GENERATOR
TO SC5
(VIDCLK)
TO SC10 14
TO SC8 SC14
TO SC7
TO SC10
+5V_0E
+5V
5572 100MHZ
I432
2573 10u
2572 100n
+3V3_STBY_SW
5574 100MHZ
2574 100n
4572
VIDCLK 24.576MHz
F566
5570 10u
1570
CX-11F 24M576
I430
I431
I433
2570 1n
7570 FS6377
XIN
XOUT
PD
SCL
SDA
ADDR
SEL_CD
OE
VDD
VSS
REF OSC
PWR DWN CTRL
I2C BUS INTERF
PLL A
PLL B
PLL C
MUX A
MUX B
MUX C
MUX D
7574-A 74LVC125A
7574-B 74LVC125A
7574-C 74LVC125A
7574-D 74LVC125A
4574
VXCA_18M432
F565
F563
MCLK 120MHz
F564
DCKEXT 36MHz
SCL_SW
SDA_SW
3016 100R
3571 100R
3575 1K
5V
SDA_1
SCL_1
4593 RES
7571-C 74HCT4053D
7571-B 74HCT4053D
7571-A 74HCT4053D
Vdd
Y0
Y1
E Vee Vss
2584 100n
+5V_STBY_SW
4592 RES
6500 RES
6501 RES
6502 RES
I435
6503
I436
BZX384-C2V4
3594 4K7
2581 100n
PW-NVM
+3V3_PW
7580 M24C32
E0
E1
E2
SCL
WC_
VCC
SDA
VSS
3580 4K7
3581 100R
3582 100R
3583 4K7
2583 100n
F567
F568
F569
4581
4582 RES
0V4
PW_SCL_NVM
PW_RESET
PW_SDA_NVM
+3V3
1575
F 500mAL 32V
441
+3V3_PW
S86
0386
FTR
4591 RES
F570
F571
F572
F573
F574
F575
F576
F577
F578
F579
F580
F581
F582
F583
F584
F585
F586
F587
F588
F589
F590
F591
F592
F593
F594
F595
F596
F597 3590 3K3
F598 3K3
3591 3K3
F599
F600
F601
F602
F603 3592 3K3
F604
3593 3K3
F605
F606
F607
F608
F609
F610
F611
F612
F613
A(0:19)
D(0:15)
(ROMWE)
BOOTWE
ROMOE
ROMWE
DEBUG CONNECTOR
PW
3122 123 6001.7
CL 36532051_022.eps
140703

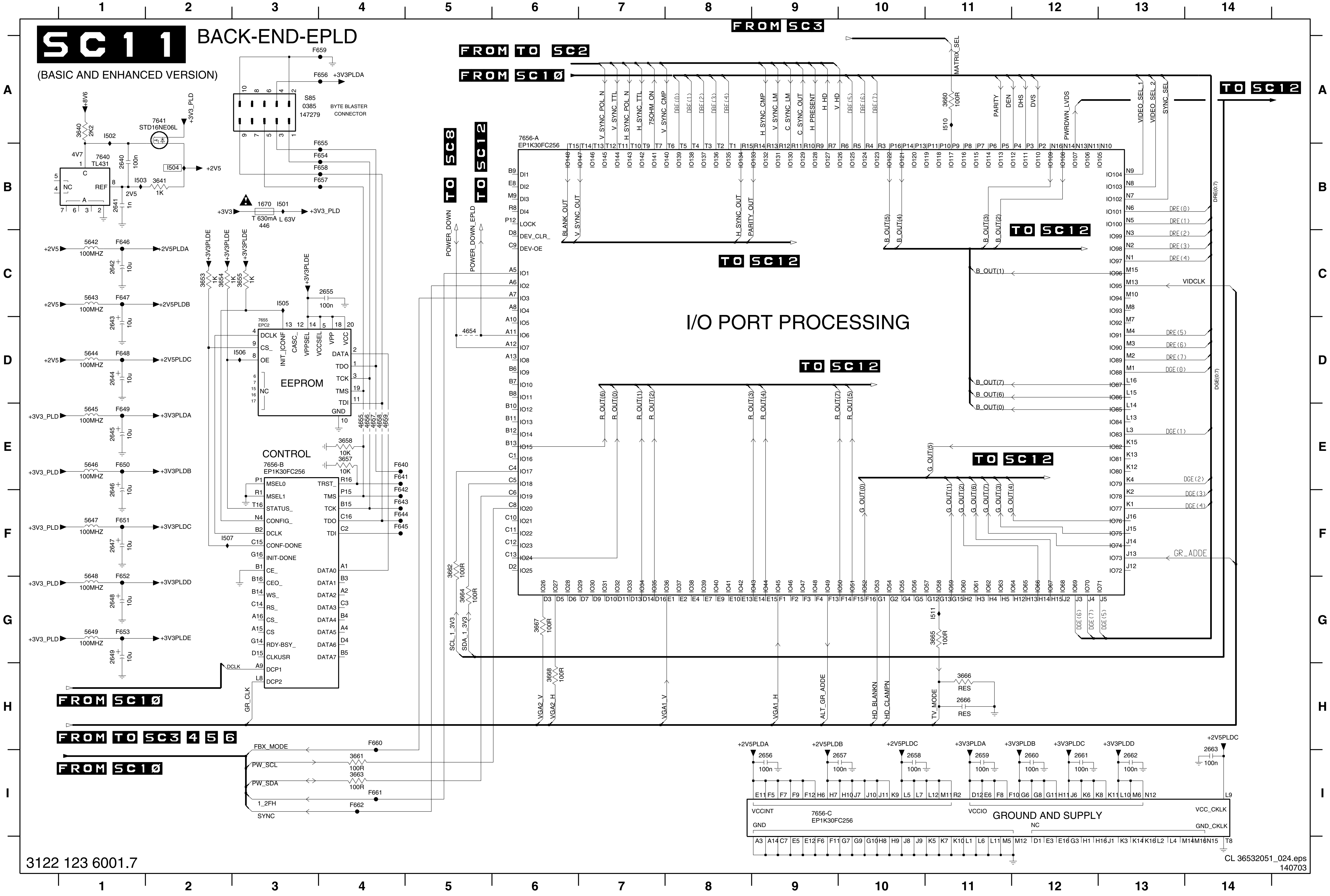
0386	C9
1570	C2
1575	G6
2570	D2
2572	C4
2573	C4
2574	C6
2581	H2
2583	F5
2584	F1
3016	D3
3571	D2
3575	E3
3580	F3
3581	G3
3582	F5
3583	F5
3590	D10
3591	D10
3592	E10
3593	E10
3594	H2
4572	C6
4574	D7
4581	G3
4582	G4
4591	C10
4592	G1
4593	E2
5570	C2
5572	B3
5574	B5
6500	G1
6501	G1
6502	G1
6503	H1
7570	C3
7571-A	G2
7571-B	F2
7571-C	E3
7574-A	C6
7574-B	D6
7574-C	D6
7574-D	E6
7580	F4
F563	E7
F564	E7
F565	D7
F566	B7
F567	G3
F568	G3
F569	G5
F570	C8
F571	C8
F572	C8
F573	C8
F574	C8
F575	D8
F576	D8
F577	D8
F578	D8
F579	D8
F580	D8
F581	E8
F582	E8
F583	E8
F584	E8
F585	F8
F586	F8
F587	F8
F588	F8
F589	F8
F590	F8
F591	C10
F592	C10
F593	C10
F594	C10
F595	C10
F596	D10
F597	D9
F598	D9
F599	D10
F600	D10
F601	D10
F602	D10
F603	E10
F604	E10
F605	E10
F606	E10
F607	E10
F608	E10
F609	F10
F610	F10
F611	F10
F612	F10
F613	F10
I430	C3
I431	D3
I432	B4
I433	D2
I435	H1
I436	H1

SCAVIO Panel: PW164 Scaler and Memory


SC 10
SCALER
PW164 +
MEMORY
(BASIC
AND ENHANCED
VERSION)
TO SC2
FROM SC9
FROM SC3
SC7
TO SC11
TO SC6
TO SC7
FROM SC5
FROM SC4
FROM SC15
TO SC7 9
TO SC11 12
7605
PW164
I/O
PORTS
16-BIT
MICRO-
PROCESSOR
PROCESSOR ROM/RAM INTERFACE
INTERRUPT
CONTROLLER
WATCHDOG
AND
TIMERS
UART
IR
DECODERS
TEST
CONTROL
YUV
TO
RGB
MICROPROCESSOR BUS
CLOCK
GENERATOR
UCLK
DCLK
MCLK
VIDEO PORT
PIXEL
PROCESSING
PROCESSOR
MEMORY
INTERFACE
PW164
INTERNAL
REGISTER
INTERFACE
OSD
GRAPHICS
PORT PIXEL
PROCESSING
SDRAM
FRAME
BUFFER
MEMORY IN BUS
REGISTER BUS
MEMORY
CONTROLLER
VERTICAL
IMAGE
SCALAR
HORIZ.
IMAGE
SCALAR
DISPLAY
FIFO
OSD
AND
GAIN
COLOR
LOOKUP
TABLES
COLOR
SPACE
EXPANDER
ON
SCREEN
DISPLAY
MEMORY OUT BUS
SYNC
DECODER
AND TIMER
AUTOMATIC
IMAGE
OPTIMIZER
DISPLAY
TIMING
GENERATOR
VDD2.5
VSS
VDD3.3
7628
CY62126
SRAM
FLASH
7630
M29W160DT
3122 123 6001.7
CL 36532051_023.eps
140703

2600	I1
2601	I2
2602	I2
2603	I2
2604	I2
2605	I3
2606	I3
2607	I3
2608	I4
2609	I4
2610	I4
2611	I4
2612	I5
2613	I5
2614	I5
2615	I6
2616	I8
2617	I9
2618	I9
2619	I9
2620	I9
2621	I10
2622	I10
2623	I10
2624	I11
2625	I11
2628	A12
2629	E12
2630	E12
3600	A2
3601	A2
3602	A3
3603	A3
3604	A3
3605	A2
3606	A4
3607	A4
3608	A4
3609	A4
3610	H11
3611	A3
3612	A4
3613	A5
3615	A10
3616	A11
3617	A11
3620	B11
3621	B11
3622	B11
3623	B11
3625	D1
3626	D1
3627	D1
3628	A14
3630	E13
3631	E13
3632	I14
3633	I14
3634	I14
3636	H14
3637	D13
3638	A9
3639	A9
4605	B2
4632	I14
5628	A12
5630	E12
6630	E13
7605	A3
7628	A13
7630	E13
F614	H13
F615	A2
F616	A2
F617	D12
F618	G2
F619	G2
F620	H2
F621	H2
F622	D12
F623	C11
F624	C11
F625	C11
F626	C12
F627	A4
F628	A4
F629	A13
F630	A3
F631	A3
F632	I13
F633	H2
F634	H11
F635	A4
F636	A4
F637	H11
F638	I11
F639	H11
I470	A9
I471	A9
I475	D13
I480	E13
I481	E13
I482	E14
I485	H13
I486	I13

SCAVIO Panel: Back-End EPLD

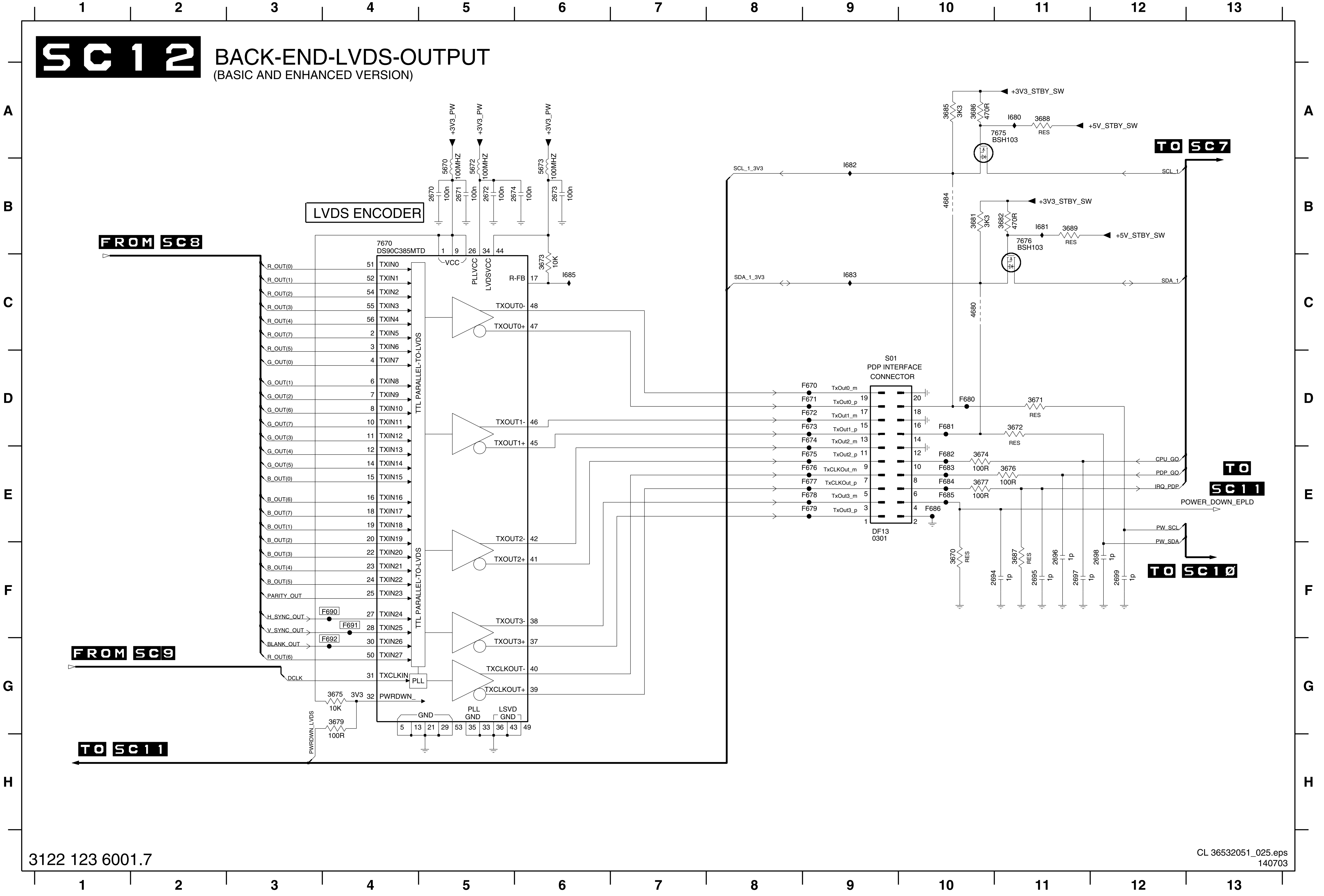

SC11
BACK-END-EPLD
(BASIC AND ENHANCED VERSION)
FROM SC3
FROM TO SC2
FROM SC10
TO SC12
TO SC8
TO SC12
I/O PORT PROCESSING
7656-A
EP1K30FC256
7656-B
EP1K30FC256
CONTROL
7655
EPC2
EEPROM
S85
0385
147279
BYTE BLASTER CONNECTOR
7641
STD16NE06L
7640
TL431
1670
T 630mA L 63V
446
+3V3_PLD
+2V5
+8V6
+2V5PLDA
+2V5PLDB
+2V5PLDC
+3V3PLDA
+3V3PLDB
+3V3PLDC
+3V3PLDD
+3V3PLDE
POWER_DOWN
POWER_DOWN_EPLD
V_SYNC_POL_N
V_SYNC_TTL
H_SYNC_POL_N
H_SYNC_TTL
75OHM_ON
V_SYNC_CMP
H_SYNC_CMP
V_SYNC_LM
C_SYNC_LM
C_SYNC_OUT
H_PRESENT
H_HD
V_HD
MATRIX_SEL
PARITY
DEN
DHS
DVS
PWRDWN_LVDS
VIDEO_SEL_1
VIDEO_SEL_2
SYNC_SEL
BLANK_OUT
V_SYNC_OUT
H_SYNC_OUT
PARITY_OUT
B_OUT(0)
B_OUT(1)
B_OUT(2)
B_OUT(3)
B_OUT(4)
B_OUT(5)
B_OUT(6)
B_OUT(7)
R_OUT(0)
R_OUT(1)
R_OUT(2)
R_OUT(3)
R_OUT(4)
R_OUT(5)
R_OUT(6)
R_OUT(7)
G_OUT(0)
G_OUT(1)
G_OUT(2)
G_OUT(3)
G_OUT(4)
G_OUT(5)
G_OUT(6)
G_OUT(7)
DRE(0:7)
DGE(0:7)
VIDCLK
GR_ADDE
SCL_1_3V3
SDA_1_3V3
VGA2_V
VGA2_H
VGA1_V
VGA1_H
ALT_GR_ADDE
HD_BLANKN
HD_CLAMPN
TV_MODE
GR_CLK
DCLK
FROM SC10
FROM TO SC3 4 5 6
FROM SC10
FBX_MODE
PW_SCL
PW_SDA
1_2FH
SYNC
7656-C
EP1K30FC256
GROUND AND SUPPLY
VCCINT
VCCIO
VCC_CKLK
GND
GND_CKLK
NC

3122 123 6001.7

CL 36532051_024.eps
140703

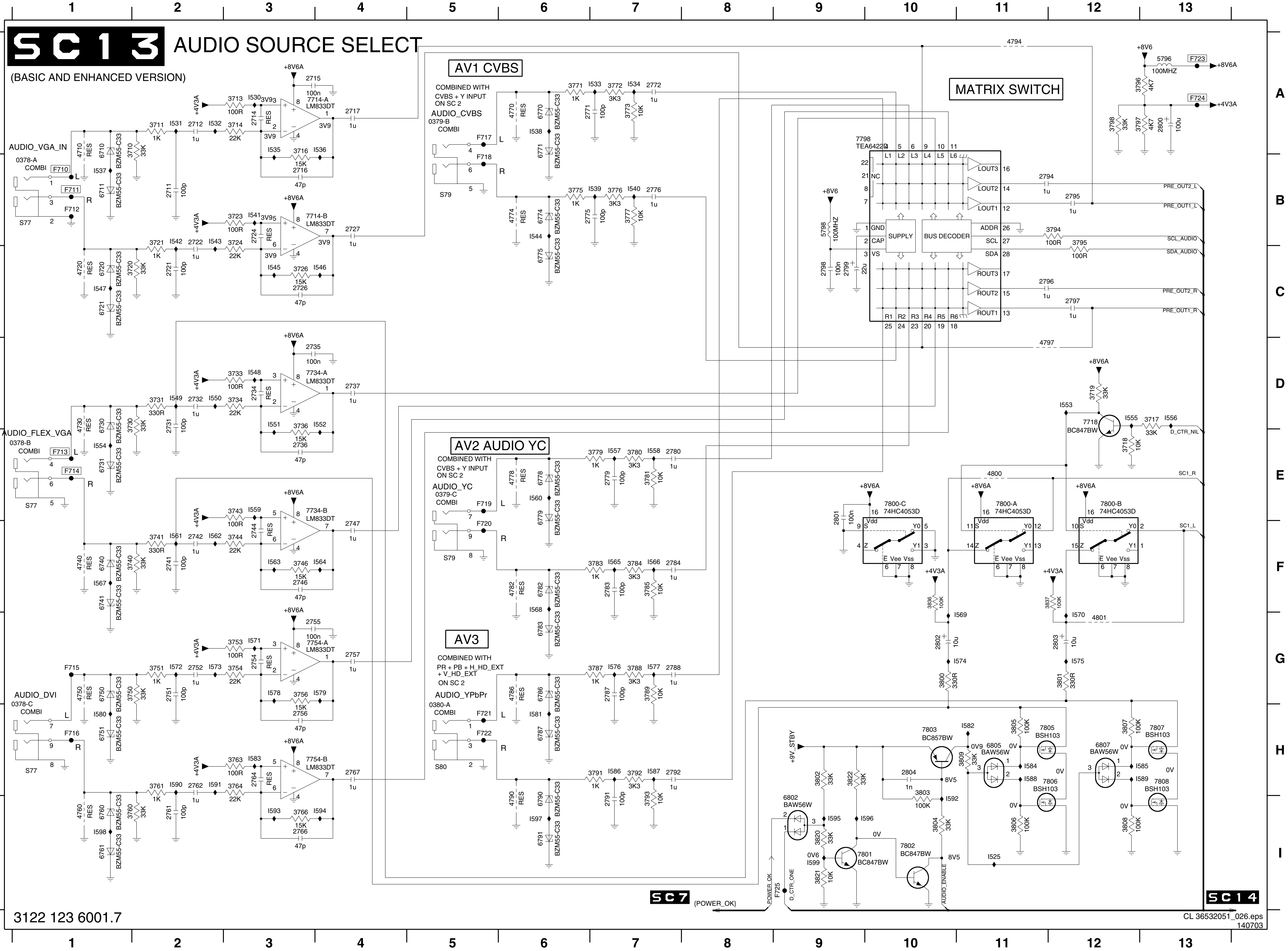
0385	A3
1670	B3
2640	B1
2641	B1
2642	C1
2643	D1
2644	D1
2645	E1
2646	F1
2647	F1
2648	G1
2649	G1
2655	C4
2656	I9
2657	I10
2658	I10
2659	I11
2660	I12
2661	I12
2662	I13
2663	I14
2666	H11
3640	A1
3641	B2
3653	C2
3654	C2
3655	C3
3657	E4
3658	E4
3660	A11
3661	I4
3662	F5
3663	I4
3664	G5
3665	G11
3666	H11
3667	G6
3668	H6
4654	D5
4655	E4
4656	E4
4657	E4
4658	E4
4659	E4
5642	C1
5643	C1
5644	D1
5645	E1
5646	E1
5647	F1
5648	G1
5649	G1
7640	B1
7641	A2
7655	D3
7656-A	A6
7656-B	E3
7656-C	I9
F640	E4
F641	E4
F642	F4
F643	F4
F644	F4
F645	F4
F646	C1
F647	C1
F648	D1
F649	E1
F650	E1
F651	F1
F652	G1
F653	G1
F654	B4
F655	B4
F656	A4
F657	B4
F658	B4
F659	A4
F660	H4
F661	I4
F662	I4
I501	B3
I502	A1
I503	B1
I504	B2
I505	C3
I506	D3
I507	F2
I510	A11
I511	G11

SCAVIO Panel: Back-End LVDS Output


SC12
BACK-END-LVDS-OUTPUT
(BASIC AND ENHANCED VERSION)
LVDS ENCODER
FROM SC8
FROM SC9
TO SC11
TO SC7
TO SC11
TO SC10
7670
DS90C385MTD
TTL PARALLEL-TO-LVDS
VCC
PLLVCC
LVDSVCC
R-FB
PLL
PWRDWN_
GND
PLL GND
LVSD GND
TXIN0
TXIN27
TXCLKIN
TXOUT0-
TXOUT0+
TXOUT1-
TXOUT1+
TXOUT2-
TXOUT2+
TXOUT3-
TXOUT3+
TXCLKOUT-
TXCLKOUT+
R_OUT(0)
G_OUT(0)
B_OUT(0)
PARITY_OUT
H_SYNC_OUT
V_SYNC_OUT
BLANK_OUT
DCLK
PWRDWN_LVDS
+3V3_PW
5670 100MHZ
5672 100MHZ
5673 100MHZ
3673 10K
3675 10K
3679 100R
3V3
S01
PDP INTERFACE CONNECTOR
DF13
0301
TxOut0_m
TxOut0_p
TxOut1_m
TxOut1_p
TxOut2_m
TxOut2_p
TxCLKOut_m
TxCLKOut_p
TxOut3_m
TxOut3_p
+3V3_STBY_SW
+5V_STBY_SW
7675 BSH103
7676 BSH103
SCL_1_3V3
SDA_1_3V3
SCL_1
SDA_1
CPU_GO
PDP_GO
IRQ_PDP
POWER_DOWN_EPLD
PW_SCL
PW_SDA
3122 123 6001.7
CL 36532051_025.eps
140703

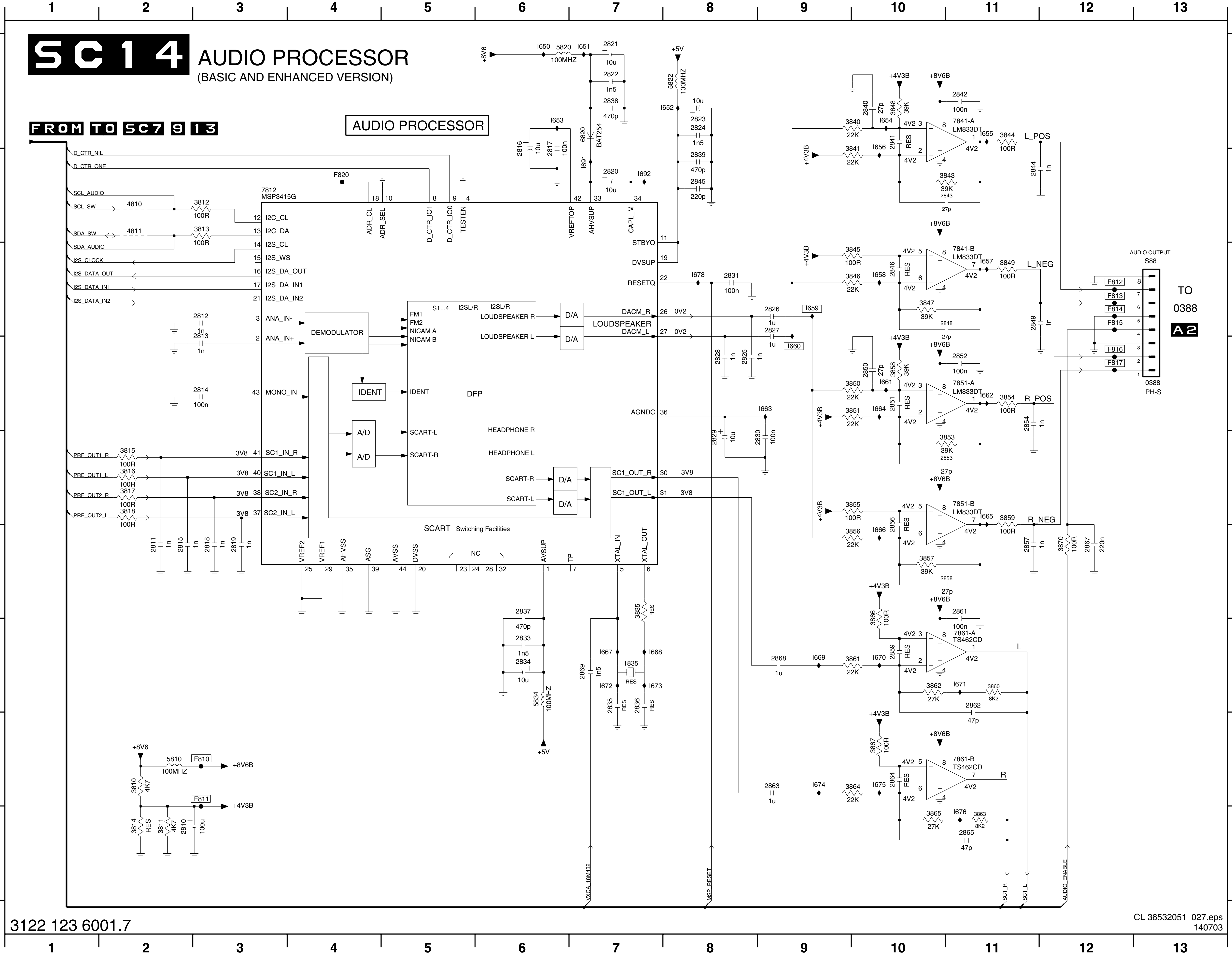
0301	E9
2670	B5
2671	B5
2672	B5
2673	B6
2674	B6
2694	F11
2695	F11
2696	F11
2697	F11
2698	F12
2699	F12
3670	F10
3671	D11
3672	D11
3673	C6
3674	E10
3675	G4
3676	E11
3677	E10
3679	G4
3681	B10
3682	B11
3685	A10
3686	A10
3687	F11
3688	A11
3689	B11
4680	C10
4684	B10
5670	B5
5672	B5
5673	B6
7670	B4
7675	A11
7676	B11
F670	D9
F671	D9
F672	D9
F673	D9
F674	D9
F675	E9
F676	E9
F677	E9
F678	E9
F679	E9
F680	D10
F681	D10
F682	E10
F683	E10
F684	E10
F685	E10
F686	E10
F690	F4
F691	F4
F692	G4
I680	A11
I681	B11
I682	B9
I683	C9
I685	C6

SCAVIO Panel: Audio Source Select


SC13 AUDIO SOURCE SELECT
(BASIC AND ENHANCED VERSION)
AV1 CVBS
COMBINED WITH CVBS + Y INPUT ON SC 2
AUDIO_CVBS
0379-B COMBI
AV2 AUDIO YC
COMBINED WITH CVBS + Y INPUT ON SC 2
AUDIO_YC
0379-C COMBI
AV3
COMBINED WITH PR + PB + H_HD_EXT + V_HD_EXT ON SC 2
AUDIO_YPbPr
0380-A COMBI
AUDIO_VGA_IN
0378-A COMBI
AUDIO_FLEX_VGA
0378-B COMBI
AUDIO_DVI
0378-C COMBI
S77
S79
S80
7714-A LM833DT
7714-B LM833DT
7734-A LM833DT
7734-B LM833DT
7754-A LM833DT
7754-B LM833DT
+8V6A
+4V3A
BZM55-C33
MATRIX SWITCH
7798 TEA6422D
SUPPLY
BUS DECODER
GND
CAP
VS
ADDR
SCL
SDA
LOUT1
LOUT2
LOUT3
ROUT1
ROUT2
ROUT3
PRE_OUT2_L
PRE_OUT1_L
PRE_OUT2_R
PRE_OUT1_R
SCL_AUDIO
SDA_AUDIO
+8V6
5796 100MHZ
F723 +8V6A
F724 +4V3A
5798 100MHZ
7718 BC847BW
D_CTR_NIL
SC1_R
SC1_L
7800-C 74HC4053D
7800-A 74HC4053D
7800-B 74HC4053D
+9V_STBY
7803 BC857BW
6805 BAW56W
6807 BAW56W
6802 BAW56W
7805 BSH103
7806 BSH103
7807 BSH103
7808 BSH103
7801 BC847BW
7802 BC847BW
POWER_OK
F725
D_CTR_ONE
AUDIO_ENABLE
SC7
(POWER_OK)
SC14
3122 123 6001.7
CL 36532051_026.eps
140703
1 2 3 4 5 6 7 8 9 10 11 12 13
A B C D E F G H I

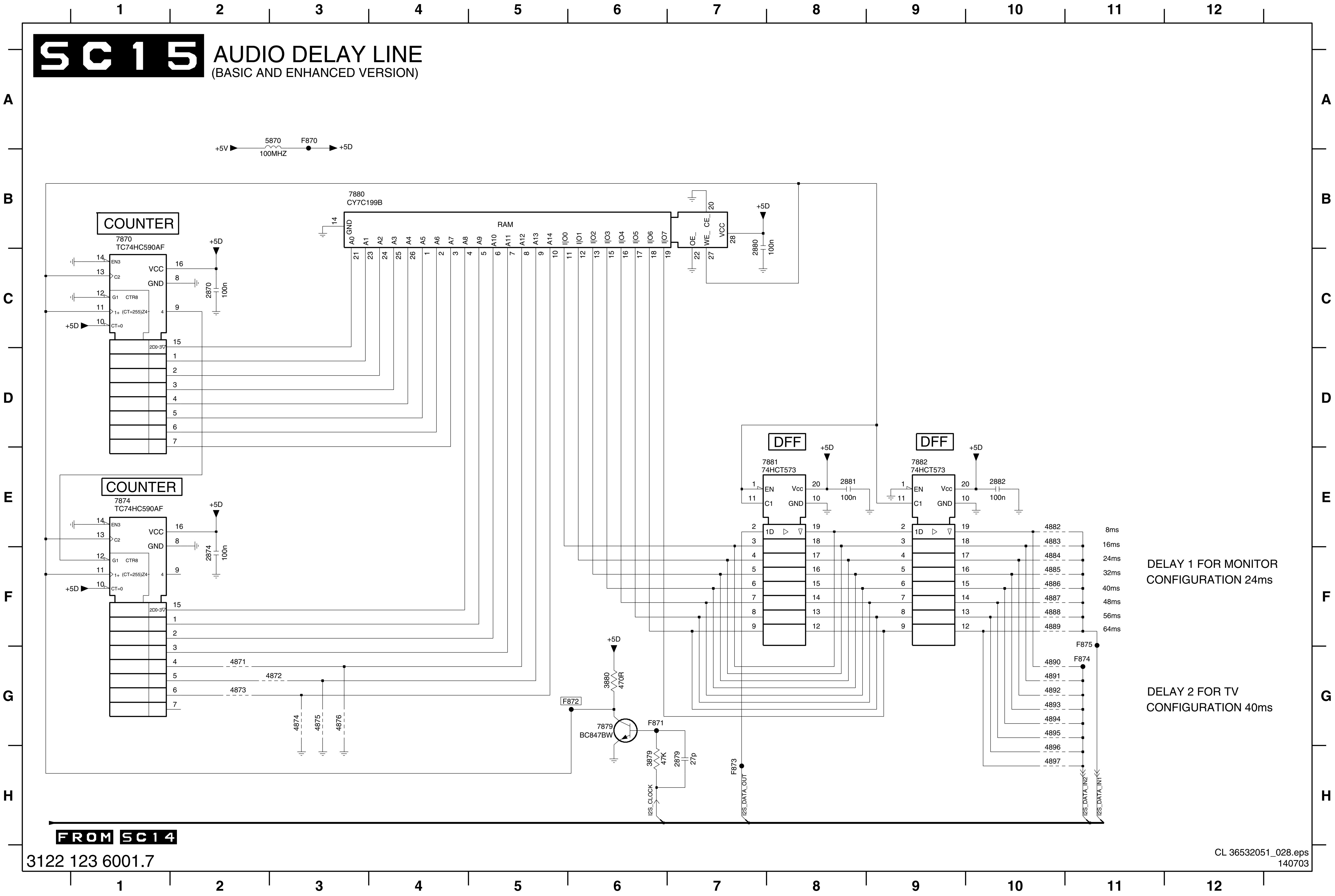
0378-A	B1
0378-B	E1
0378-C	G1
0379-B	A5
0379-C	E5
0380-A	G5
2711	B2
2712	A2
2714	A3
2715	A3
2716	B3
2717	A4
2721	C2
2722	B2
2724	B3
2726	C3
2727	B4
2731	D2
2732	D2
2734	D3
2735	D3
2736	E3
2737	D4
2741	F2
2742	F2
2744	F3
2746	F3
2747	F4
2751	G2
2752	G2
2754	G3
2755	G3
2756	H3
2757	G4
2761	I2
2762	H2
2764	H3
2766	I3
2767	H4
2771	A6
2772	A7
2775	B6
2776	B7
2779	E7
2780	E7
2783	F7
2784	F7
2787	G7
2788	G7
2791	I7
2792	H7
2794	B11
2795	B12
2796	C11
2797	C12
2798	C9
2799	C9
2800	A13
2801	E9
2802	G10
2803	G12
2804	H10
3710	A2
3711	A2
3713	A3
3714	A3
3716	A3
3717	D13
3718	E12
3719	D12
3720	C2
3721	B2
3723	B3
3724	B3
3726	C3
3730	D2
3731	D2
3733	D3
3734	D3
3736	D3
3740	F2
3741	F2
3743	E3
3744	F3
3746	F3
3750	G2
3751	G2
3753	G3
3754	G3
3756	G3
3760	I2
3761	H2
3763	H3
3764	H3
3766	I3
3771	A6
3772	A7
3773	A7
3775	B6
3776	B7
3777	B7
3779	E7
3780	E7
3781	E7
3783	F7
3784	F7
3785	F7
3787	G7
3788	G7
3789	G7
3791	H7
3792	H7
3793	I7
3794	B12
3795	B12
3796	A13
3797	A13
3798	A12
3800	G10
3801	G12
3802	H9
3803	H10
3804	I10
3805	H11
3806	I11
3807	H12
3808	I12
3809	H11
3820	I9
3821	I9
3822	H9
3836	F10
3837	F12
4710	A1
4720	C1
4730	D1
4740	F1
4750	G1
4760	I1
4770	A6
4774	B6
4778	E6
4782	F6
4786	G6
4790	I6
4794	A11
4797	D11
4800	E11
4801	G12
5796	A13
5798	B9
6710	A1
6711	B1
6720	C1
6721	C1
6730	D1
6731	E1
6740	F1
6741	F1
6750	G1
6751	H1
6760	I1
6761	I1
6770	A6
6771	A6
6774	B6
6775	C6
6778	E6
6779	E6
6782	F6
6783	G6
6786	G6
6787	H6
6790	I6
6791	I6
6802	I9
6805	H11
6807	H12
7714-A	A3
7714-B	B3
7718	D12
7734-A	D3
7734-B	E3
7754-A	G3
7754-B	H3
7798	A9
7800-A	E11
7800-B	E12
7800-C	E10
7801	I9
7802	I10
7803	H10
7805	H11
7806	H12
7807	H13
7808	H13
F710	B1
F711	B1
F712	B1
F713	E1
F714	E1
F715	G1
F716	H1
F717	A5
F718	B5
F719	E5
F720	F5
F721	H5
F722	H5
F723	A13
F724	A13
F725	I9
I525	I11
I530	A3
I531	A2
I532	A2
I533	A7
I534	A7
I535	A3
I536	A4
I537	B1
I538	A6
I539	B7
I540	B7
I541	B3
I542	B2
I543	B2
I544	B6
I545	C3
I546	C4
I547	C1
I548	D3
I549	D2
I550	D2
I551	D3
I552	D4
I553	D12
I554	E1
I555	D12
I556	D13
I557	E7
I558	E7
I559	E3
I560	E6
I561	F2
I562	F2
I563	F3
I564	F4
I565	F7
I566	F7
I567	F1
I568	F6
I569	G11
I570	G12
I571	G3
I572	G2
I573	G2
I574	G11
I575	G12
I576	G7
I577	G7
I578	G3
I579	G4
I580	H1
I581	H6
I582	H11
I583	H3
I584	H11
I585	H13
I586	H7
I587	H7
I588	H11
I589	H13
I590	H2
I591	H2
I592	I10
I593	I3
I594	I4
I595	I9
I596	I10
I597	I6
I598	I1
I599	I9

SCAVIO Panel: Audio Processor


SC14
AUDIO PROCESSOR
(BASIC AND ENHANCED VERSION)
FROM TO SC7 9 13
AUDIO PROCESSOR
7812
MSP3415G
D_CTR_NIL
D_CTR_ONE
SCL_AUDIO
SCL_SW
SDA_SW
SDA_AUDIO
I2S_CLOCK
I2S_DATA_OUT
I2S_DATA_IN1
I2S_DATA_IN2
I2C_CL
I2C_DA
I2S_CL
I2S_WS
I2S_DA_OUT
I2S_DA_IN1
I2S_DA_IN2
ANA_IN-
ANA_IN+
MONO_IN
SC1_IN_R
SC1_IN_L
SC2_IN_R
SC2_IN_L
DEMODULATOR
IDENT
A/D
D/A
DFP
FM1
FM2
NICAM A
NICAM B
S1...4
I2SL/R
LOUDSPEAKER R
LOUDSPEAKER L
LOUDSPEAKER
HEADPHONE R
HEADPHONE L
SCART-L
SCART-R
SCART Switching Facilities
ADR_CL
ADR_SEL
D_CTR_IO1
D_CTR_IO0
TESTEN
VREFTOP
AHVSUP
CAPL_M
STBYQ
DVSUP
RESETQ
DACM_R
DACM_L
AGNDC
SC1_OUT_R
SC1_OUT_L
VREF2
VREF1
AHVSS
ASG
AVSS
DVSS
NC
AVSUP
TP
XTAL_IN
XTAL_OUT
PRE_OUT1_R
PRE_OUT1_L
PRE_OUT2_R
PRE_OUT2_L
+8V6
+5V
+8V6B
+4V3B
BAT254
1835
5820 100MHZ
5822 100MHZ
5834 100MHZ
5810 100MHZ
F810
F811
F820
7841-A LM833DT
7841-B LM833DT
7851-A LM833DT
7851-B LM833DT
7861-A TS462CD
7861-B TS462CD
L_POS
L_NEG
R_POS
R_NEG
L
R
AUDIO OUTPUT
S88
F812
F813
F814
F815
F816
F817
0388
PH-S
TO 0388 A2
VXCA_18M432
MSP_RESET
SC1_R
SC1_L
AUDIO_ENABLE
3122 123 6001.7
CL 36532051_027.eps
140703

0388 D13
1835 G7
2810 I2
2811 F2
2812 C3
2813 D3
2814 D3
2815 F2
2816 B6
2817 B6
2818 F3
2819 F3
2820 B7
2821 A7
2822 A7
2823 A8
2824 A8
2825 D8
2826 C9
2827 C9
2828 D8
2829 E8
2830 E9
2831 C8
2833 G6
2834 G6
2835 G7
2836 G7
2837 F6
2838 A7
2839 B8
2840 A10
2841 A10
2842 A11
2843 B11
2844 B11
2845 B8
2846 C10
2848 C11
2849 C11
2850 D10
2851 D10
2852 D11
2853 E11
2854 D11
2856 F10
2857 F11
2858 F11
2859 G10
2861 F11
2862 G11
2863 H9
2864 H10
2865 I11
2867 F12
2868 G9
2869 G7
3810 H2
3811 I2
3812 B3
3813 B3
3814 I2
3815 E2
3816 E2
3817 E2
3818 E2
3835 F7
3840 A10
3841 B10
3843 B11
3844 A11
3845 C10
3846 C10
3847 C10
3848 A10
3849 C11
3850 D10
3851 D10
3853 E11
3854 D11
3855 E10
3856 F10
3857 F10
3858 D10
3859 E11
3860 G11
3861 G10
3862 G10
3863 I11
3864 H10
3865 I10
3866 F10
3867 H10
3870 F12
4810 B2
4811 B2
5810 H2
5820 A6
5822 A8
5834 G6
6820 A7
7812 B3
7841-A A11
7841-B C11
7851-A D11
7851-B E11
7861-A G11
7861-B H11
F810 H3
F811 H3
F812 C12
F813 C12
F814 C12
F815 C12
F816 D12
F817 D12
F820 B4
I650 A6
I651 A7
I652 A8
I653 A6
I654 A10
I655 A11
I656 A10
I657 C11
I658 C10
I659 C9
I660 D9
I661 D10
I662 D11
I663 D9
I664 D10
I665 E11
I666 F10
I667 G7
I668 G7
I669 G9
I670 G10
I671 G11
I672 G7
I673 G7
I674 H9
I675 H10
I676 I11
I678 C8
I691 B7
I692 B7

SCAVIO Panel: Audio Delay Line


SC15
AUDIO DELAY LINE
(BASIC AND ENHANCED VERSION)
+5V
5870
100MHZ
F870
+5D
7880
CY7C199B
RAM
GND
A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14
IO0 IO1 IO2 IO3 IO4 IO5 IO6 IO7
OE_ WE_ CE_ VCC
2880
100n
COUNTER
7870
TC74HC590AF
EN3
C2
G1 CTR8
1+ (CT=255)Z4
CT=0
2D0>3∇
VCC
GND
2870
100n
COUNTER
7874
TC74HC590AF
2874
100n
4871
4872
4873
4874
4875
4876
DFF
7881
74HCT573
EN
C1
1D
Vcc
GND
2881
100n
DFF
7882
74HCT573
2882
100n
4882
4883
4884
4885
4886
4887
4888
4889
8ms
16ms
24ms
32ms
40ms
48ms
56ms
64ms
DELAY 1 FOR MONITOR
CONFIGURATION 24ms
F875
F874
4890
4891
4892
4893
4894
4895
4896
4897
DELAY 2 FOR TV
CONFIGURATION 40ms
F872
3880
470R
7879
BC847BW
F871
3879
47K
2879
27p
F873
I2S_CLOCK
I2S_DATA_OUT
I2S_DATA_IN2
I2S_DATA_IN1
FROM SC14
3122 123 6001.7
CL 36532051_028.eps
140703
1 2 3 4 5 6 7 8 9 10 11 12
A B C D E F G H

2870	C2
2874	F2
2879	H7
2880	B7
2881	E8
2882	E10
3879	H6
3880	G6
4871	G2
4872	G3
4873	G2
4874	G3
4875	G3
4876	G3
4882	E10
4883	E10
4884	F10
4885	F10
4886	F10
4887	F10
4888	F10
4889	F10
4890	G10
4891	G10
4892	G10
4893	G10
4894	G10
4895	G10
4896	G10
4897	H10
5870	A3
7870	B1
7874	E1
7879	G6
7880	B3
7881	E7
7882	E9
F870	A3
F871	G6
F872	G6
F873	H7
F874	G11
F875	F11

Layout SCAVIO Panel (Overview Top Side)

0301 A3	1575 A3	2107 B7	2150 A7	2228 C6	2328 A6	2522 B1	2645 B2	3004 C8	3078 C8	3105 B8	3133 B5	3161 B7	3200 B5	3284 B6	3330 A6	3378 B5	3426 C2	3519 B3	3611 A4	3880 A8	4215 C6	4890 A8	5223 C6	6010 C8	6319 C1	6711 C3	7040 A8	7135 B8	7333 B6
0305 A2	1670 A1	2108 B7	2151 B5	2252 C6	2335 B5	2523 B3	2646 A2	3005 C8	3079 C8	3106 C8	3134 B8	3162 B5	3203 B5	3285 B6	3331 A6	3379 B5	3427 C2	3520 B3	3625 A3	3900 C3	4216 C6	4891 A8	5224 C6	6071 C8	6320 C1	6720 C2	7041 A8	7138 C7	7340 B1
0315 A6	1835 B8	2109 B7	2152 B5	2253 C6	2336 C3	2524 B1	2647 A2	3006 C8	3080 C8	3107 C8	3135 B8	3163 B8	3204 B5	3286 B6	3333 A5	3380 B2	3428 C2	3536 A5	3626 A3	3905 A6	4220 C8	4892 A8	5226 C6	6076 C8	6321 C1	6721 C2	7074 C7	7141 B8	7352 C1
0316 A5	2002 C8	2110 B7	2153 B7	2254 C6	2337 B3	2530 A6	2648 A3	3008 C8	3081 C8	3108 B7	3136 B8	3164 C8	3205 B5	3289 B6	3334 A5	3381 B2	3429 C2	3540 A7	3627 A3	3906 A6	4381 B3	4893 A8	5228 B5	6091 C8	6322 C1	6730 C2	7075 C7	7145 A7	7364 C1
0318 A6	2003 C8	2111 B8	2156 A7	2260 C6	2338 C3	2541 A7	2649 A2	3009 B3	3082 C8	3109 B7	3137 C7	3165 B7	3209 C5	3290 B6	3336 B3	3382 B2	3448 B1	3541 A7	3640 A1	3907 A6	4500 C1	4894 A8	5300 A6	6105 B7	6323 C1	6731 C2	7079 C8	7146 B8	7370 B5
0319 A6	2004 C8	2112 B7	2157 B8	2261 C6	2340 B1	2543 A6	2657 A3	3010 C8	3083 C8	3110 C8	3138 C7	3166 B5	3210 C5	3291 B6	3337 B3	3383 B2	3449 B1	3542 A7	3641 A1	3909 A5	4572 A5	4895 A8	5302 B7	6166 B8	6324 C1	6740 C2	7080 C8	7148 A7	7383 B2
0320 A1	2005 C8	2113 B7	2158 B5	2262 C6	2343 C1	2544 A6	2662 A3	3011 C8	3084 C8	3111 C7	3139 C7	3170 A6	3213 C6	3292 B6	3338 B3	3385 B3	3451 B1	3543 A7	3655 A2	3913 C1	4574 A5	4896 A8	5350 C1	6200 C5	6353 C1	6741 C2	7084 C8	7151 A7	7432 C2
0375 C6	2008 C8	2114 C8	2159 B7	2263 C6	2351 C1	2557 A6	2663 A3	3012 C8	3085 C8	3112 C7	3140 B8	3171 A6	3214 C6	3293 B6	3339 B3	3386 B3	3452 C1	3544 A7	3657 A3	3914 A1	4654 A2	4897 A8	5352 C1	6201 C5	6354 C1	6750 C2	7085 C8	7154 B7	7433 C2
0376 C1	2012 C8	2115 C7	2161 C8	2264 C6	2352 C1	2558 A6	2799 B8	3013 C8	3086 B8	3113 B7	3141 B8	3172 A6	3215 C6	3297 B6	3340 B1	3387 B3	3453 C1	3545 A6	3658 A3	3915 B1	4659 A2	4898 A1	5520 A2	6202 C6	6355 C1	6751 C2	7088 C8	7157 A7	7506 B1
0378 C2	2014 C8	2116 C8	2164 C8	2265 C7	2353 C1	2559 A6	2800 C3	3014 C8	3087 C8	3114 B8	3142 B8	3173 B7	3216 C6	3298 B5	3346 B1	3389 B3	3460 B1	3546 A7	3660 B8	3918 B5	4710 C3	5089 B8	5524 B1	6203 C6	6356 C1	6760 C2	7089 B8	7158 B8	7540 A7
0379 C7	2015 C8	2117 C8	2165 C8	2266 C6	2354 C1	2560 A6	2802 C3	3015 C8	3088 C8	3115 B7	3144 A6	3174 B7	3217 C6	3299 B6	3351 B6	3390 B3	3461 B1	3547 A7	3667 B6	3919 A5	4720 C2	5090 B8	5541 A7	6204 C5	6357 C1	6761 C2	7090 C7	7160 B7	7570 A4
0380 C8	2021 C8	2118 C7	2166 B8	2267 C6	2355 C1	2562 A7	2803 C3	3016 A5	3089 C8	3116 C8	3145 A7	3175 B7	3218 C6	3304 B6	3352 C1	3391 B3	3462 B1	3556 A1	3668 B6	3920 A5	4730 C2	5140 A7	5570 A4	6205 C5	6365 C1	6770 C8	7100 B7	7165 B8	7574 A5
0381 C7	2030 C8	2119 C6	2167 B8	2268 C7	2365 C1	2563 A7	2810 A8	3040 A8	3090 B7	3117 B8	3146 A7	3176 B7	3219 B5	3305 B3	3353 C1	3392 B3	3463 B1	3557 A6	3679 A3	3922 B1	4740 C2	5161 C8	5572 A5	6206 C5	6366 C1	6771 C8	7102 B7	7170 B5	7580 A4
0382 A1	2040 A8	2120 C8	2168 B8	2269 C7	2370 A5	2564 A7	2816 B8	3041 A8	3091 C7	3118 C8	3147 A6	3177 B7	3220 A8	3306 A5	3354 C1	3393 B3	3464 B1	3558 A6	3687 B3	3924 C1	4750 C2	5164 C8	5574 A5	6207 C5	6378 B5	6774 C7	7103 B7	7175 C5	7605 B4
0383 B2	2041 A8	2123 C7	2195 B5	2270 C7	2372 B5	2565 A7	2820 B8	3042 A8	3092 C8	3119 C8	3148 B7	3178 B8	3250 B7	3308 A6	3355 C1	3394 B3	3483 C2	3559 A6	3710 C3	3925 C1	4760 C2	5166 B8	5628 A3	6208 C5	6379 B5	6775 C7	7104 B8	7215 C6	7628 A3
0384 B2	2042 A8	2124 C7	2196 B5	2274 C7	2375 B5	2566 A6	2821 B8	3043 A8	3093 C7	3120 C8	3149 A7	3179 B7	3251 B7	3309 A6	3359 A6	3397 B3	3484 C2	3560 A6	3720 C2	3926 C1	4770 C8	5167 B8	5642 A2	6209 C5	6388 B3	6778 C7	7105 B8	7225 B6	7640 A1
0385 A1	2060 A7	2127 B8	2197 C5	2275 C7	2376 B5	2570 A4	2823 B8	3044 A8	3094 B8	3121 B8	3150 A6	3180 B8	3260 B7	3310 A6	3363 C3	3398 B2	3485 C2	3570 A1	3730 C2	3927 C1	4774 C7	5170 C8	5643 A3	6210 C6	6393 B3	6779 C7	7107 B7	7280 B6	7641 A1
0387 A8	2072 C7	2128 B7	2198 C4	2276 C7	2383 B2	2572 A4	2829 B8	3045 A8	3095 C8	3122 B7	3151 A7	3181 B8	3261 C6	3311 A6	3364 C1	3401 B2	3486 C2	3571 A4	3740 C2	3928 C1	4778 C7	5175 B7	5644 A3	6214 C6	6399 B3	6782 C7	7110 B7	7308 A6	7655 A2
0388 A8	2077 C8	2134 B8	2199 C5	2277 C7	2433 B2	2573 A5	2831 B8	3050 A8	3096 C8	3123 C8	3152 A7	3182 B8	3262 B7	3316 A5	3365 C1	3402 C2	3487 C2	3572 A6	3750 C2	4008 A1	4782 C7	5180 B7	5646 A2	6274 C8	6508 B3	6783 C7	7111 B7	7309 B6	7656 A2
1100 A2	2082 C8	2137 C7	2217 C6	2278 C7	2435 B2	2574 A5	2834 B8	3051 A8	3097 B8	3124 C7	3153 B6	3183 B7	3263 B7	3318 A6	3366 C1	3404 C2	3488 C2	3573 A6	3760 C2	4011 A1	4786 C8	5196 B5	5647 A2	6276 C6	6509 B3	6786 C8	7112 B7	7311 A6	7670 A3
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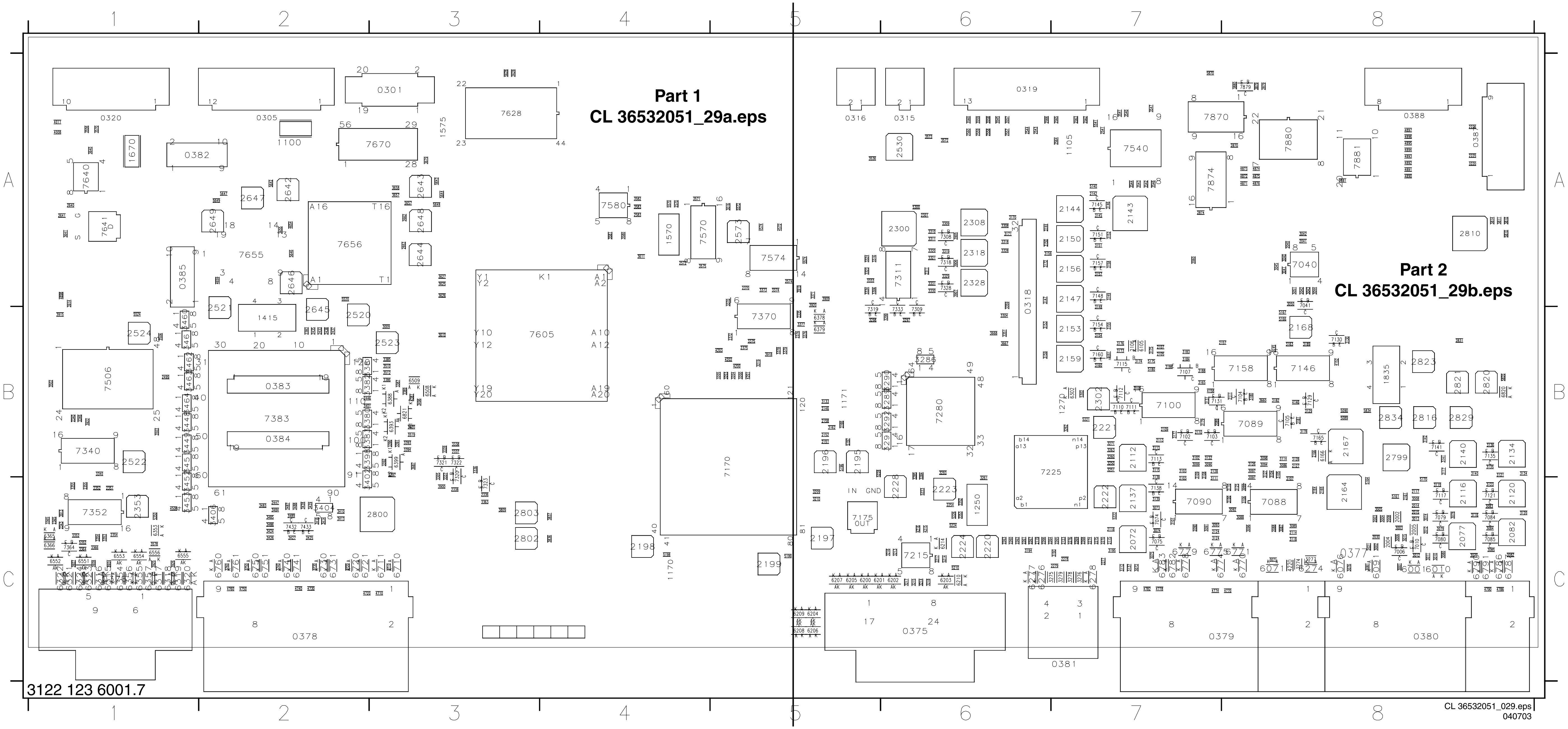

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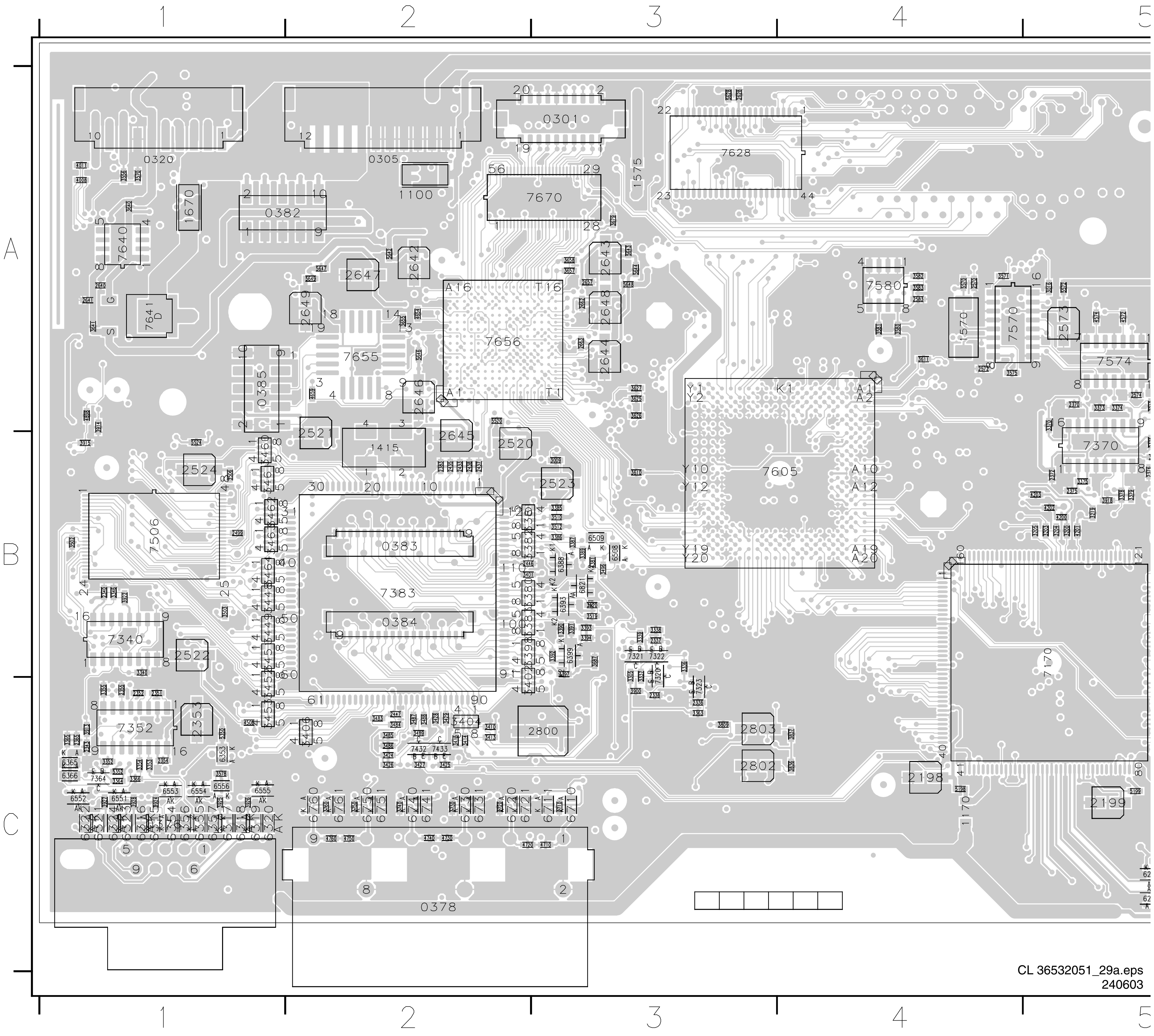
Layout SCAVIO Panel (Part 1 Top Side)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Y2
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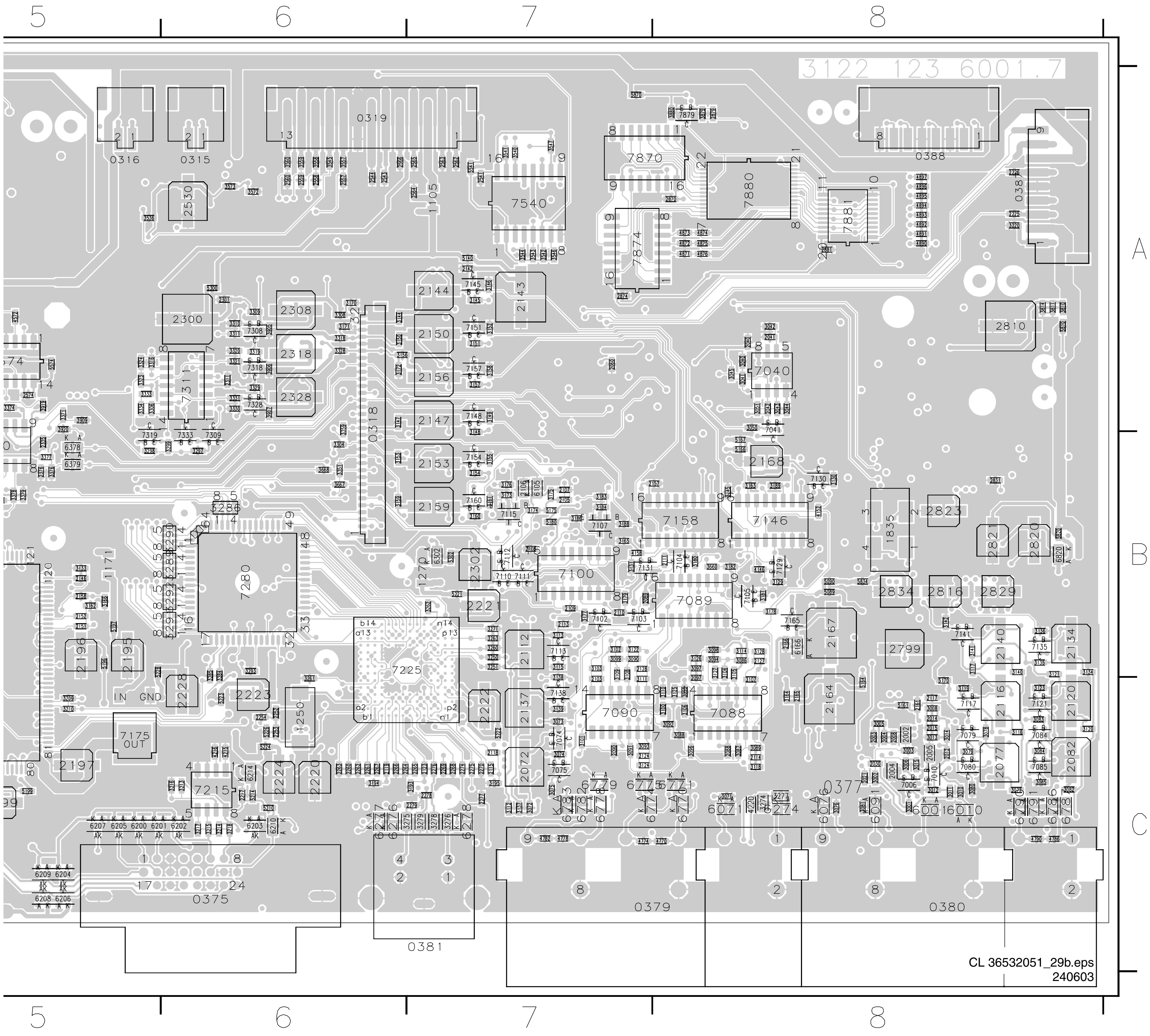
Layout SCAVIO Panel (Part 2 Top Side)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2222
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GND
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1171
1270

CL 36532051_29b.eps
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Layout SCAVIO Panel (Overview Bottom Side)

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2207	B4
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2212	B4
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2232	C2
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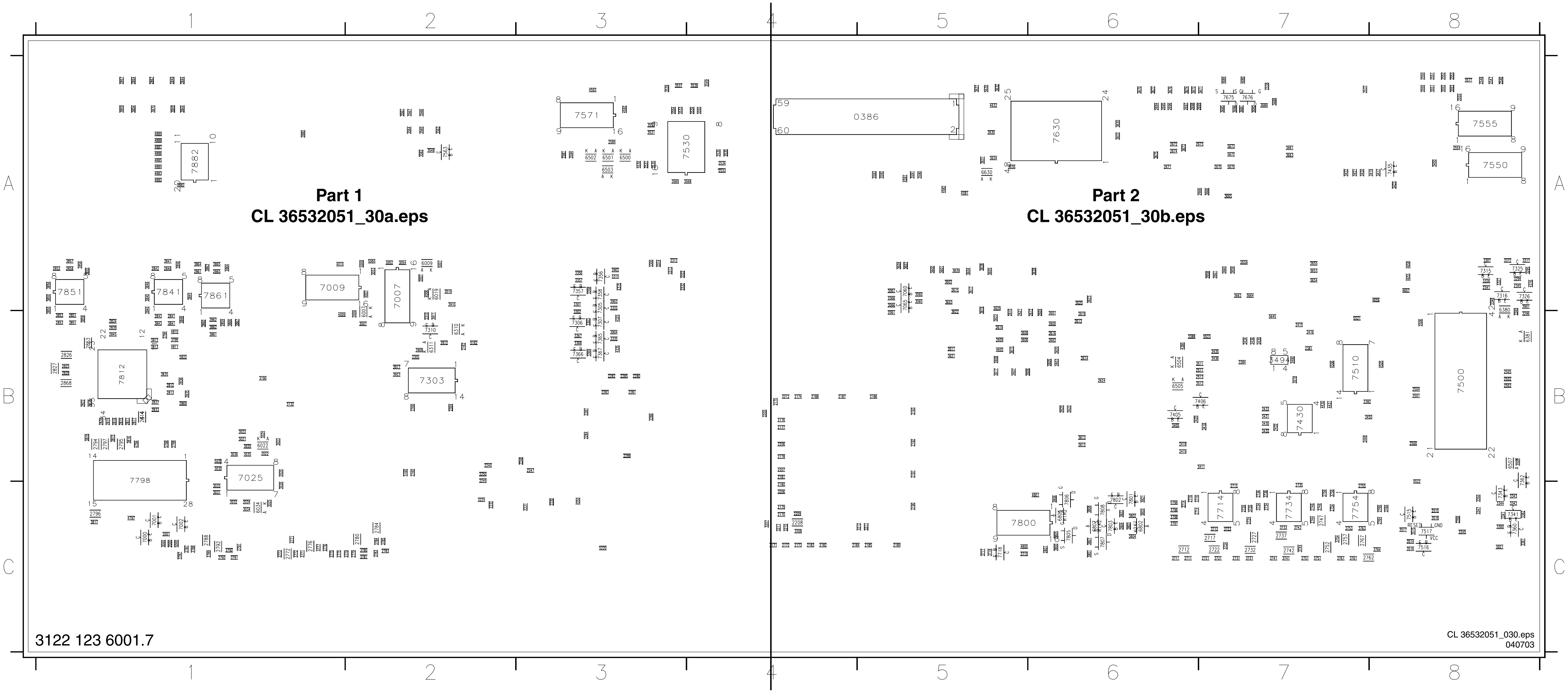
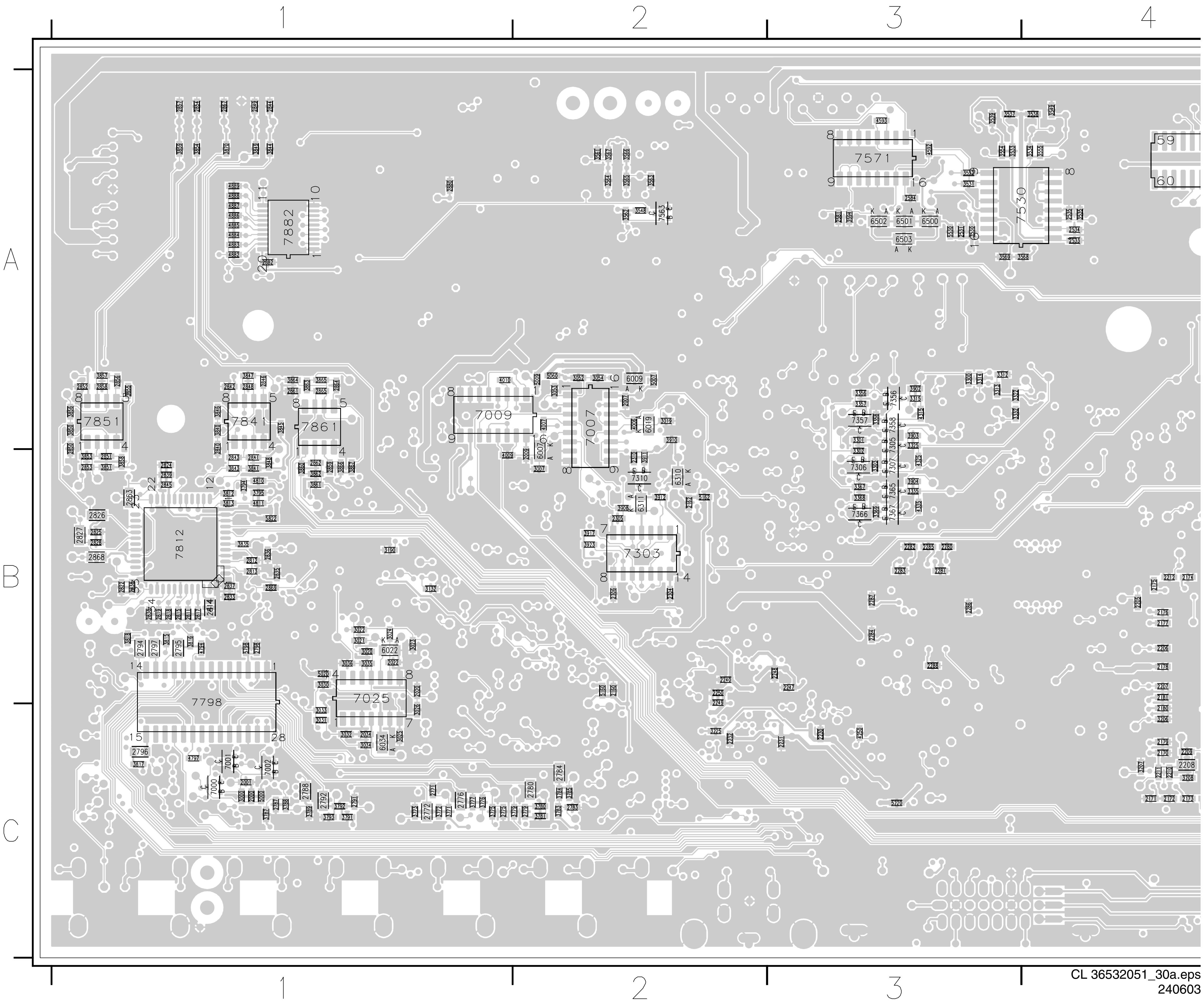


Layout SCAVIO Panel (Part 1 Bottom Side)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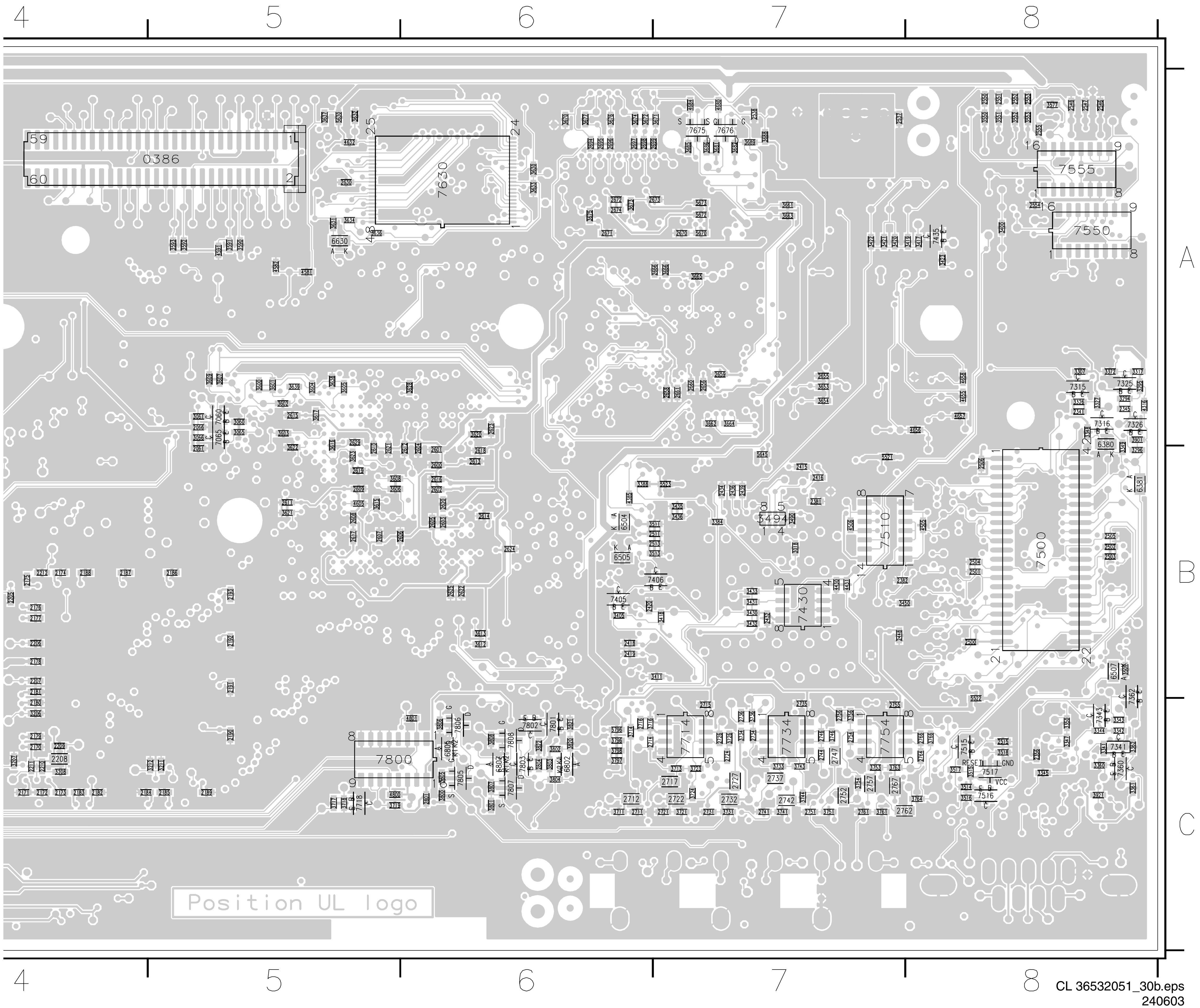
Layout SCAVIO Panel (Part 2 Bottom Side)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VCC
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2208
Position UL logo

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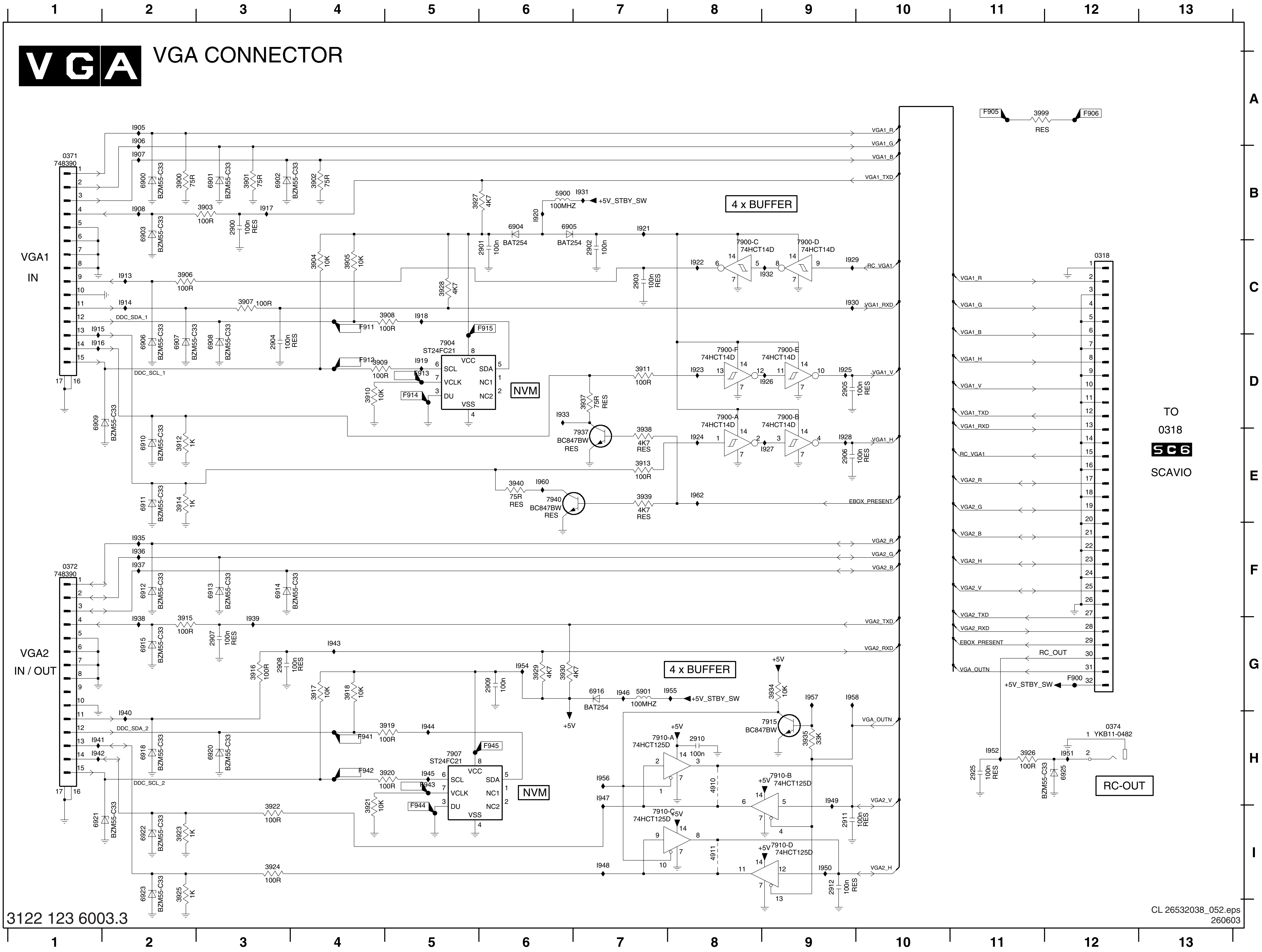
VGA Connector Panel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IN
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748390
VGA2
IN / OUT
0372
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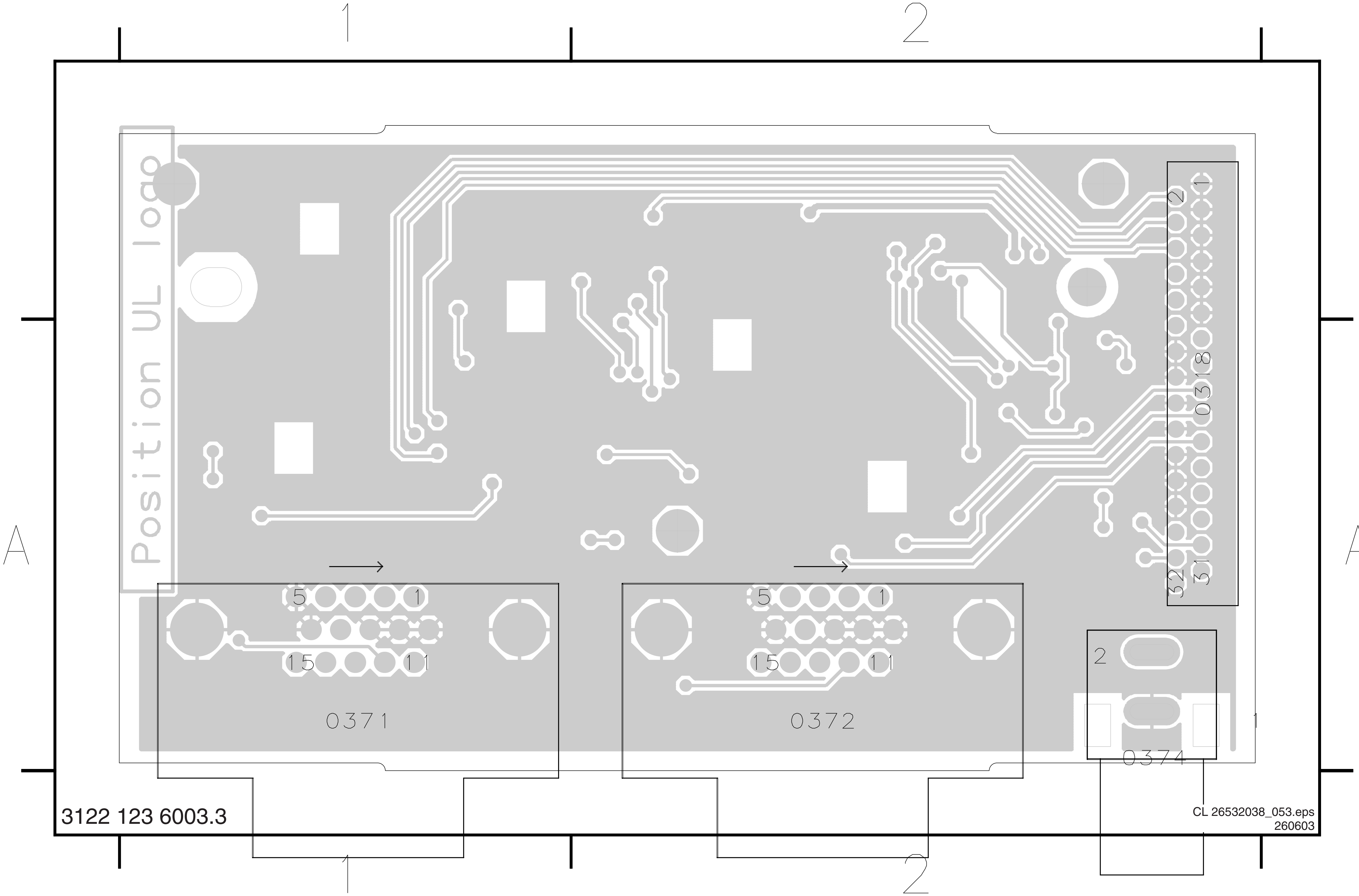
4 x BUFFER
NVM
7904
ST24FC21
7907
ST24FC21
SCL
VCLK
DU
VCC
SDA
NC1
NC2
VSS
7900-A
7900-B
7900-C
7900-D
7900-E
7900-F
74HCT14D
7910-A
7910-B
7910-C
7910-D
74HCT125D
7937
BC847BW
7940
BC847BW
7915
BC847BW
BZM55-C33
BAT254
5900
100MHZ
5901
100MHZ
+5V_STBY_SW
+5V
DDC_SDA_1
DDC_SCL_1
DDC_SDA_2
DDC_SCL_2
VGA1_R
VGA1_G
VGA1_B
VGA1_TXD
VGA1_RXD
RC_VGA1
VGA1_V
VGA1_H
EBOX_PRESENT
VGA2_R
VGA2_G
VGA2_B
VGA2_TXD
VGA2_RXD
VGA2_OUTN
VGA2_V
VGA2_H
VGA2_OUTN
F905
3999
RES
F906
0318
TO
0318
SC6
SCAVIO
RC_OUT
F900
0374
YKB11-0482
RC-OUT
3122 123 6003.3
CL 26532038_052.eps
260603

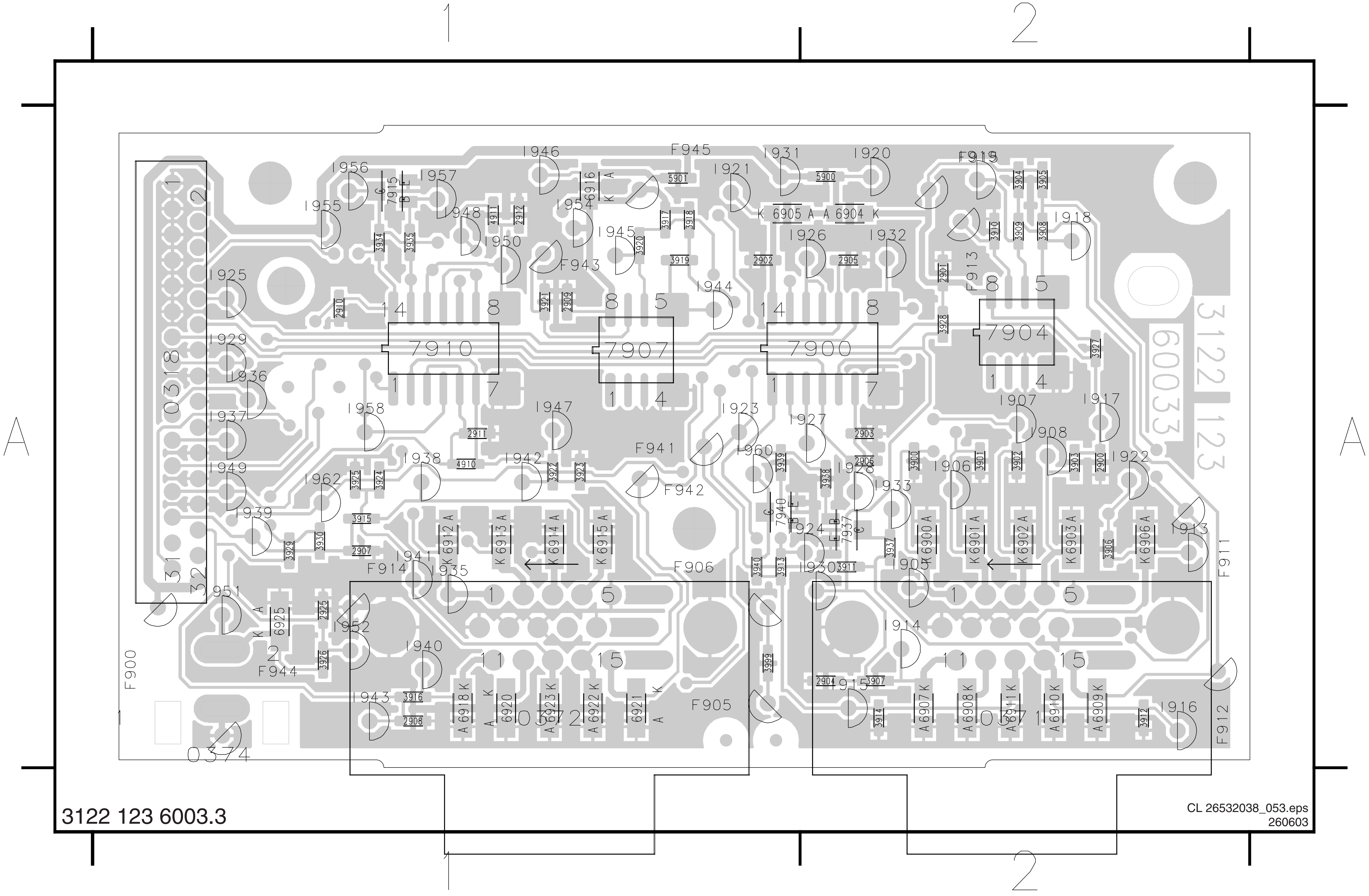
0318	C13
0371	B1
0372	F1
0374	H13
2900	B3
2901	C6
2902	C7
2903	C7
2904	D3
2905	D9
2906	E9
2907	G3
2908	G3
2909	G6
2910	H8
2911	I9
2912	I9
2925	H11
3900	B2
3901	B3
3902	B4
3903	B3
3904	C4
3905	C4
3906	C2
3907	C3
3908	C5
3909	D5
3910	D5
3911	D7
3912	E2
3913	E7
3914	E2
3915	G2
3916	G3
3917	G4
3918	G4
3919	H5
3920	H5
3921	I5
3922	I3
3923	I2
3924	I3
3925	I2
3926	H12
3927	B5
3928	C5
3929	G6
3930	G6
3934	G9
3935	H9
3937	D6
3938	E7
3939	E7
3940	E6
3999	A12
4910	H8
4911	I8
5900	B6
5901	G7
6900	B2
6901	B3
6902	B3
6903	B2
6904	B6
6905	B6
6906	D2
6907	D2
6908	D3
6909	D1
6910	E2
6911	E2
6912	F2
6913	F3
6914	F3
6915	G2
6916	G7
6918	H2
6920	H3
6921	I1
6922	I2
6923	I2
6925	H12
7900-A	D8
7900-B	D9
7900-C	C8
7900-D	C9
7900-E	D9
7900-F	D8
7904	D5
7907	H5
7910-A	H7
7910-B	H9
7910-C	I7
7910-D	I9
7915	H9
7937	E6
7940	E6
F900	G12
F905	A11
F906	A12
F911	C4
F912	D4
F913	D5
F914	D5
F915	D5
F941	H4
F942	H4
F943	H5
F944	I5
F945	H5
I905	A2
I906	A2
I907	B2
I908	B2
I913	C2
I914	C2
I915	C1
I916	D1
I917	B3
I918	C5
I919	D5
I920	B6
I921	B7
I922	C8
I923	D8
I924	E8
I925	D9
I926	D9
I927	E9
I928	E9
I929	C9
I930	C9
I931	B7
I932	C9
I933	D6
I935	F2
I936	F2
I937	F2
I938	G2
I939	G3
I940	H2
I941	H1
I942	H1
I943	G4
I944	H5
I945	H5
I946	G7
I947	H6
I948	I6
I949	H9
I950	I9
I951	H12
I952	H12
I954	G6
I955	G8
I956	H7
I957	G9
I958	G9
I960	E6
I962	E8

Layout VGA Connector Panel (Top Side)


1
2
A
Position UL logo
0318
2
1
32
31
5
1
15
11
0371
0372
0374
3122 123 6003.3
CL 26532038_053.eps
260603

0318	A2
0371	A1
0372	A2
0374	A2

Layout VGA Connector Panel (Bottom Side)


1
2
A
0318
0371
0372
0374
7910
7907
7900
7904
7915
7937
7940
F900
F905
F906
F911
F912
F913
F914
F919
F941
F942
F943
F944
F945
3122 123 60033
3122 123 6003.3
CL 26532038_053.eps
260603

0318	A1
0371	A2
0372	A1
0374	A1
2900	A2
2901	A2
2902	A1
2903	A2
2904	A2
2905	A2
2906	A2
2907	A1
2908	A1
2909	A1
2910	A1
2911	A1
2912	A1
2925	A1
3900	A2
3901	A2
3902	A2
3903	A2
3904	A2
3905	A2
3906	A2
3907	A2
3908	A2
3909	A2
3910	A2
3911	A2
3912	A2
3913	A1
3914	A2
3915	A1
3916	A1
3917	A1
3918	A1
3919	A1
3920	A1
3921	A1
3922	A1
3923	A1
3924	A1
3925	A1
3926	A1
3927	A2
3928	A2
3929	A1
3930	A1
3934	A1
3935	A1
3937	A2
3938	A2
3939	A1
3940	A1
3999	A1
4910	A1
4911	A1
5900	A2
5901	A1
6900	A2
6901	A2
6902	A2
6903	A2
6904	A2
6905	A1
6906	A2
6907	A2
6908	A2
6909	A2
6910	A2
6911	A2
6912	A1
6913	A1
6914	A1
6915	A1
6916	A1
6918	A1
6920	A1
6921	A1
6922	A1
6923	A1
6925	A1
7900	A2
7904	A2
7907	A1
7910	A1
7915	A1
7937	A2
7940	A1

8. Electrical Alignments

Index of this chapter:

1. General Alignment Conditions
2. Hardware Alignments
3. Software Alignments and Settings

Note: The Service Default Mode (SDM) and Service Alignment Mode (SAM) are described in chapter 5. Menu navigation is done with the "CURSOR UP, DOWN, LEFT, OR RIGHT" keys of the remote control transmitter.

8.1 General Alignment Conditions

Perform all electrical adjustments under the following conditions:
Mains voltage and frequency: 220 V_ac / 50 Hz unless otherwise stated.
Connect the set to the Mains via an isolation transformer.
Allow the set to warm up for approximately 20 minutes.
Measure the voltages and waveforms in relation to chassis ground (with the exception of the voltages on the primary side of the power supply). Never use the cooling fins/plates as ground.
Test probe: Ri > 10 Mohm, Ci < 2.5 pF.
Use an isolated trimmer/screwdriver to perform the alignments.

Use a VGA-generator (e.g. Astro) or a Personal Computer (*) as test pattern generator (contact your National Service Organisation for the necessary PC test pattern files) and connect it to the VGA1 input of the plasma monitor. When you use a PC, start Microsoft PowerPoint (or Paintbrush), and load the mentioned file. Then display the picture as full screen.

(*) If you use a PC as generator, please check (measure) if the video output signals fulfil the VGA standards (see chapter 1).

8.2 Hardware Alignments

There are no hardware alignments necessary.

8.3 Software Alignments

Enter the Service Alignment Mode (see chapter 5). The SAM menu will now appear on the screen.
Select one of the following alignment menus via the upper horizontal bar:

1. GENERAL (GEN.)
2. DISPLAY (DISP.)
3. SCALER (SCAL.)
4. VIDEO 1 (VID.1)
5. VIDEO 2 (VID.2)
6. OPTIONS (OPT.)

The last three items are not available in the Basic configuration.

Note: There are several methods to exit the SAM, each with its own characteristics:

- Switch the set "off" (with the Mains switch or by pulling the Mains cord); new alignment settings are **always** stored, even when item "store" was not activated!
- Switch the set to "standby" by pressing the power button on the remote control transmitter; new alignment settings are **always** stored, even when item "store" was not activated!
- Use a standard RC-transmitter and key in the code **00**; new alignment settings are **not** stored, except when item "store" was activated!

8.3.1 GENERAL

Table 8-1 SAM Menu "GEN."

Service Alignment Menu	General (Gen.)
Type nr. - AG Code	32FD9944/01S (example)
SW version OTC	AAAABC-X.Y xxxxx
SW version PW	AAAABC-X.Y xxxxx
SW version EPLD	AAAABC-X.Y xxxxx
Errors 1	xx xx xx xx xx
Errors 2	xx xx xx xx xx
Operational hours	xx
Reset error buffer	Press OK to reset
Store	Press OK to store

This menu is fully explained in chapter 5.

STORE
Select this item, and press OK, to store the alignments.

8.3.2 DISPLAY

Table 8-2 SAM Menu "DISP."

Service Alignment Menu	Display (Disp.)
Test pattern	On / Off
Contrast	Adjust ...
Gamma	Adjust ...
White point	Adjust ...
Compensation fact.	0 <-------|-------> 255 128

TEST PATTERN
Possible to generate an "even white" test pattern, which is generated by the PDP. You can use this picture, to check the plasma display for pixel defects.

CONTRAST
Not necessary to align, fixed value is "255".

GAMMA
Not necessary to align, fixed value is "2".

WHITE POINT
Not necessary to align, unless stated by the NSO. Fixed value is "255".

COMPENSATION FACTOR
Not necessary to change. Fixed value is "128". In some cases however, a new software table must be loaded in the Pixel Works Scaler (via ComPair). The following service scenarios are possible:

- **When a defective glass filter plate is replaced:** This requires a new "White Point" adjustment (see next paragraph).
- **When a defective PDP is replaced by the same type:** This requires a new "White Point" adjustment (see next paragraph).
- **When a defective PDP is replaced by another (newer) type:** This requires both a new compensation table upload (by ComPair), and a new "White Point" adjustment (see next paragraph). **Note:** The loaded software, performs the settings automatically.
- **When a new software table must be loaded in the Pixel Works Scaler (e.g. in case of a software update):** This requires both a new compensation table upload (by

ComPair), and a new "White Point" adjustment (see next paragraph).
Note: The loaded software, performs the settings automatically.

8.3.3 SCALER

Table 8-3 SAM Menu "SCAL."

Service Alignment Menu	Scaler (Scal.)
Test pattern	On / Off
Color temperature	6500K / 8700K / 10000K
White point	Adjust ...
Align ADC	Press OK to execute
Clear user settings	Press OK to clear

TEST PATTERN

This function makes it possible to generate a "colour bar" test pattern (generated by the PW Scaler IC). You can use this picture, to check the video path, starting at the PW Scaler IC to the plasma display.

COLOUR TEMPERATURE

Select the appropriate colour temperature for the alignments (see also "White point" adjustment below).

WHITE POINT

Table 8-4 SAM Menu "SCALER - WHITE POINT"

Service Alignment Menu	Scaler - White point
White point red	<-------------|------------> 125
White point green	<---------|----------------> 100
White point blue	<-----------|--------------> 110
Press OK when done	

Notes:

- First align the ADC (see ALIGN ADC) **before** aligning the WHITE POINT.
- The alignment values should NOT exceed the value "128".

Method 1 (with colour analyser)

Supply, via an external VGA source (e.g. a VGA generator, or a PC in 640x480 mode), a "**White Drive**" test pattern (ask your NSO for the PC file). This picture consists of black picture (0 mV) with in the middle a 100% white (0.7 V) square with dimensions 202x152.

1. Set "Brightness" to "50" and "Contrast" to "71" (via the standard customer menu).
2. Go to the SAM menu.
3. Set COLOR TEMPERATURE to "8700 K" (with the introduction of the high brightness H2 plasma panels, the "NORMAL" colour temperature is adapted from "7600 K" to "8700 K").
4. Measure with a CTV colour analyser (calibrated with the spectra) on the centre of the white square on the screen.
5. Select WHITE POINT in the SAM SCALER menu, and press CURSOR RIGHT.
6. Adjust with the CURSOR UP/DOWN or LEFT/RIGHT command, the three WHITE POINTS RED, GREEN and BLUE to "128" (do **not** go above this value!), and align with one or two of the drivers to the correct coordinates (see table).
7. Repeat the same measurement for respectively colour temperature "6500 K" and "10000 K".
8. Repeat again if necessary.

Table 8-5 White Point XY-coordinates

Colour Temperature	x	y
6500 K (Cool)	313	329
8700 K (Normal)	289	299
10000 K (Warm)	280	289

Method 2 (without colour analyser)

Without having a CTV colour analyser, it is possible to directly set some parameters, which are based on average values from production.

Table 8-6 White point RGB-values 32-inch monitor

Col. Temp. 32"	R	G	B
6500 K (Cool)	114	125	128
8700 K (Normal)	119	128	128
10000 K (Warm)	125	128	115

Table 8-7 White point RGB-values 37-inch monitor

Col. Temp. 37”	R	G	B
6500 K (Cool)	112	128	127
8700 K (Normal)	117	128	124
10000 K (Warm)	119	128	111

Table 8-8 White point RGB-values 42-inch monitor

Col. Temp. 42"	R	G	B
6500 K (Cool)	116	126	128
8700 K (Normal)	119	128	125
10000 K (Warm)	127	127	112

ALIGN ADC

Supply, via an external VGA source (e.g. a PC, mode 640x480), the "**ADC alignment**" test pattern (ask your NSO for the PC file).
The upper 360 lines of this picture consists of a half black and half white picture with the following settings (on a full scale of "255"):

- Black "17" (47 mV).
- White "255" (700 mV).

The lower 120 lines of this picture, are vertically divided into 4 boxes of 160 pixels each with (from left to right) the following settings:

- Black "0" (0 mV).
- Black "5" (14 mV).
- White "250" (686 mV).
- White "255" (700 mV).

1. Go to the SAM menu.
2. Select ALIGN ADC in the SAM Scaler menu, and press CURSOR RIGHT.
3. The alignment is performed automatically.

CLEAR USER SETTINGS

In some (rare) cases it is possible that the PW Scaler recalls settings, which are made earlier by the user (e.g. "phase" or "shift"), and not the last (wanted) settings. To correct this problem, one can select this function.

8.3.4 VIDEO 1 (Enhanced version only)

Table 8-9 SAM Menu "VID. 1"

Service Alignment Menu	Video 1 (Vid. 1)
Test pattern	On / Off
Brightness	0 <-----------|---------- > 255
Contrast	0 <-----------|---------- > 255
Sharpness	0 <-----------|---------- > 255

TEST PATTERN

This function makes it possible to generate a "full white" test pattern (generated by the de-interlacer SDA9400, item 7280). You can use this picture, to check the video path of the external inputs AV1, AV2, and AV3, starting at item 7280 (**mind you:** the proper functioning of the Digital Video Decoder SAA7118 is not tested!).

Note: To generate the test pattern, it is necessary to feed a signal to one of the AV-inputs.

BRIGHTNESS

This is the setting of IC7225 (SAA7118). Not necessary to align, fixed value is:

- "132" for PAL/SECAM.
- "139" for NTSC.

CONTRAST

This is the setting of IC7225 (SAA7118). Not necessary to align, fixed value is:

- "139" for PAL/SECAM.
- "128" for NTSC.

SHARPNESS

Not necessary to align, fixed value is "6".

8.3.5 VIDEO 2 (Enhanced version only)

Table 8-10 SAM Menu "VID. 2"

Service Alignment Menu	Video 2 (Vid. 2)
Lum. delay PAL	0 <-----------|---------- > 7
Lum. delay SECAM	0 <-----------|---------- > 7
Lum. delay NTSC	0 <-----------|---------- > 7

With these alignments, you can place the luminance information on the chrominance information (push brightness onto the colour). Use a colour bar/grey scale pattern as test signal. These values are normally fixed.

LUM. DELAY PAL

Apply a PAL colour bar/grey scale pattern as a test signal. Adjust value until the transients of the colour part and black and white part of the test pattern are at the same position. Fixed value is "4".

LUM. DELAY SECAM

Apply a SECAM colour bar/grey scale pattern as a test signal. Adjust value until the transients of the colour part and black and white part of the test pattern are at the same position. Fixed value is "4".

LUM. DELAY NTSC

Apply a NTSC colour bar/grey scale pattern as a test signal. Adjust value until the transients of the colour and black & white part of the test area are at the same position. Fixed value is "4".

8.3.6 OPTIONS (Enhanced version only)

Table 8-11 SAM Menu "OPT."

Service Alignment Menu	Options (Opt.)
Vs/Va control	On / Off
Display size	32" / 42"
Virgin	On / Off
ICONN control	On / Off
FAN control	On / Off

Vs/Va CONTROL

When this option is set to "on", it will enable the "PDP feedback loop" for the **automatic** V_s and V_a alignment. See table below for the correct setting.

Table 8-12 V_s/V_a Control options

	PSU version 3	**PSU v.3 with precision R's**	**PSU version 4**
PDP with Vs feedback (-52 PDP)	Feedback loop 'OFF', alignment is necessary.	Feedback loop 'ON', but alignment (check) is necessary (see par. 8.2 for values) .	Feedback loop 'ON', no alignment necessary.
PDP with Vs/Va feedback (with 'B' in serial number)	Feedback loop 'OFF', alignment is necessary.	Feedback loop 'ON', no alignment (check) necessary.	Feedback loop 'ON', no alignment necessary.

DISPLAY SIZE

This option is only meant for the factory, to indicate the display size for the software.
Note: When none of the items is highlighted, the 37-inch display is selected.

VIRGIN

Normally "off". When this option is set to "on", the display starts with the language selection menu.

ICONN CONTROL

Normally "off". Set this option to "on" in case a so-called "ICONN"-box (for Hotel TV) is connected to the display.
Caution: When this option is set to "on", **without an ICONN-Box** connected to the monitor, one cannot control the monitor anymore (because the RC connection is interrupted).
There are two ways to restore the remote control again:
Connect pin 8 (IR_TX) to pin 9 (IR_RX) on the RS232 connector of the monitor (the easiest way to do this, is to make a "dummy" connector with these pins connected, and plug this into the monitor), or
Set the set in the Service Alignment Mode (SAM) via **shorting jumpers 1 and 2 of connector 0382** on the SCAVIO panel. After this, you can enter the appropriate menu to set ICONN CONTROL to "off" again.

FAN CONTROL

Normally "off". Set this option to "on", when the optional fans are mounted (ask your NSO for info).

9. Circuit Descriptions, List of Abbreviations, and IC Data Sheets

Index of this chapter:

1. Introduction
2. Power Supply Unit
3. VGA connector Panel
4. SCAVIO Panel
5. Audio Amplifier Panel
6. LED/Switch Panel
7. Plasma Display Panel
8. Abbreviations
9. IC Data Sheets

Notes:

- Figures can deviate slightly from the actual situation, due to different set executions.
- For a good understanding of the following circuit descriptions, please use the diagrams in chapter 6 and 7. Where necessary, you will find a separate drawing for clarification.

9.1 Introduction

The FM-chassis is the 3rd generation Philips plasma monitors. In comparison to the FTV1.9DE, it has:

- A power supply that is based on the MG-chassis,
- A new SCAVIO panel, which takes over the tasks of the former AVC and LIMESCO panels.
- A new, class-D, audio amplifier,
- A new, improved, Plasma Display Panel (with new ALiS technology).

It is possible to use this product as stand-alone monitor or, in combination with the so-called F21RE Receiver box, for TV applications.

In this manual, we combined three screen sizes (32-inch as FM23, 37-inch as FM33, and 42-inch as FM24) into one manual. When there are important differences between these versions, this is explicitly mentioned.

For these chassis, there are two configurations:

- **Basic:** which has one video input (VGA1) and one video output (VGA2). The VGA2 video output is directly connected to the VGA1 video input, without any processing. The audio output of VGA2 is also directly connected to the VGA1 audio input.
- **Enhanced:** which has six video inputs (VGA1, VGA2, DVI-D, CVBS, YC and HD) and six corresponding audio inputs. These inputs are internally converted to the appropriate signals. The VGA2 connection is here bi-directional (Flex-VGA).

Note: In all descriptions below, the *Enhanced* version of this FM-chassis is discussed. When there are important differences between the *Basic* and *Enhanced* versions, this is mentioned.

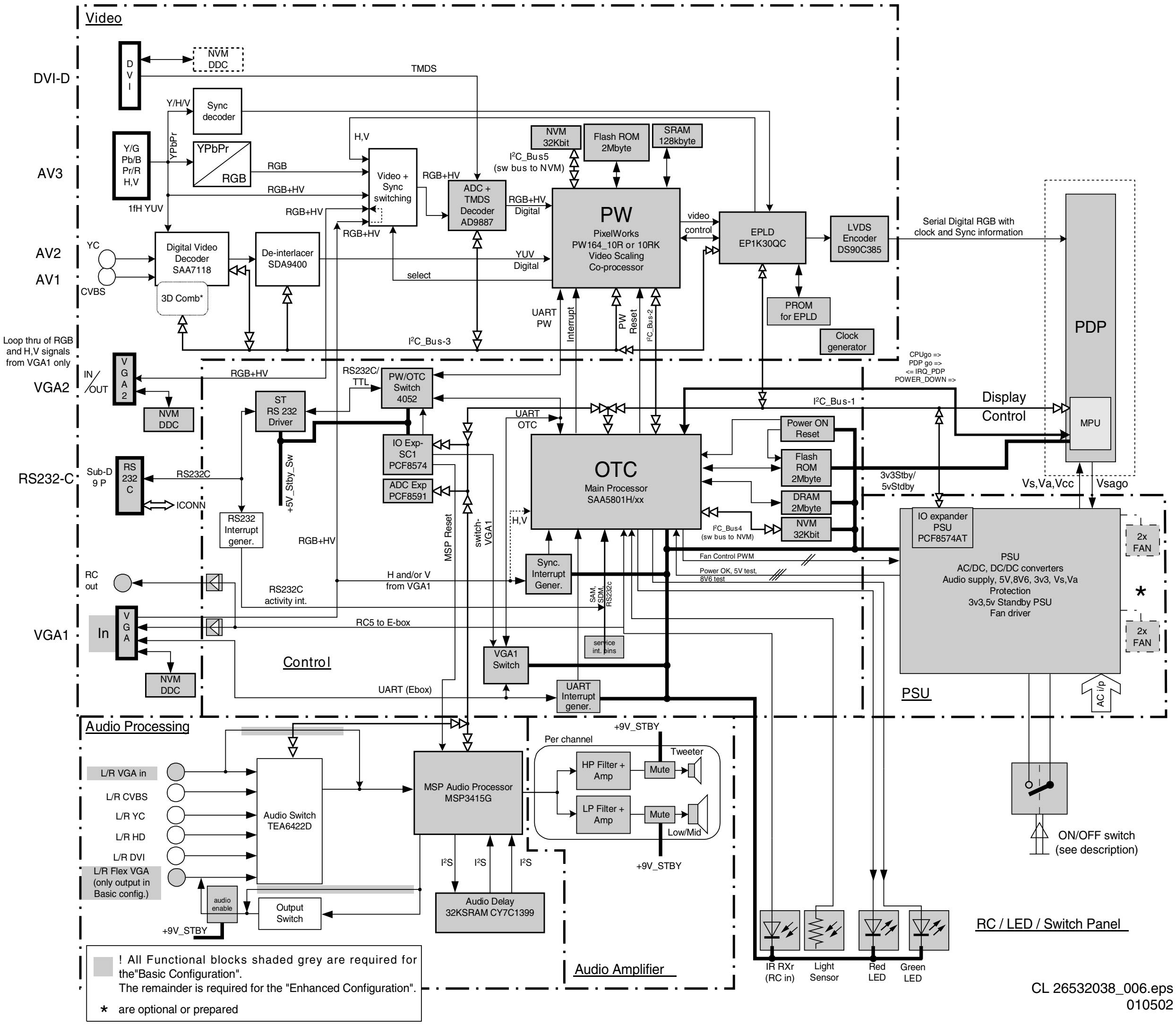

Video
DVI-D
DVI
NVM DDC
TMDS
AV3
Y/H/V
Sync decoder
Y/G Pb/B Pr/R H,V
YPbPr
YPbPr RGB
RGB
RGB+HV
1fH YUV
H,V
Video + Sync switching
ADC + TMDS Decoder AD9887
NVM 32Kbit
Flash ROM 2Mbyte
SRAM 128kbyte
I²C_Bus5 (sw bus to NVM)
RGB+HV Digital
PW PixelWorks PW164_10R or 10RK Video Scaling Co-processor
video control
EPLD EP1K30QC
LVDS Encoder DS90C385
Serial Digital RGB with clock and Sync information
PDP
AV2
AV1
YC
CVBS
Digital Video Decoder SAA7118
3D Comb*
De-interlacer SDA9400
select
YUV Digital
UART PW
Interrupt
PW Reset
I²C_Bus-2
PROM for EPLD
Clock generator
I²C_Bus-3
Loop thru of RGB and H,V signals from VGA1 only
VGA2
IN/OUT
VGA2
NVM DDC
RGB+HV
ST RS 232 Driver
RS232C/TTL
PW/OTC Switch 4052
UART OTC
CPUgo => PDP go => <= IRQ_PDP POWER_DOWN =>
I²C_Bus-1
Display Control
MPU
RS232-C
Sub-D 9 P
RS 232 C
RS232C
ICONN
+5V_Stby_Sw
IO Exp-SC1 PCF8574
ADC Exp PCF8591
OTC Main Processor SAA5801H/xx
Power ON Reset
Flash ROM 2Mbyte
DRAM 2Mbyte
NVM 32Kbit
3v3Stby/ 5vStdby
Vs,Va,Vcc
Vsago
RS232 Interrupt gener.
RGB+HV
MSP Reset
switch-VGA1
H,V
I²C_Bus4 (sw bus to NVM)
IO expander PSU PCF8574AT
2x FAN
Fan Control PWM
Power OK, 5V test, 8V6 test
PSU AC/DC, DC/DC converters Audio supply, 5V,8V6, 3v3, Vs,Va Protection 3v3,5v Standby PSU Fan driver
*
RC out
H and/or V from VGA1
Sync. Interrupt Gener.
SAM SDM RS232c
RS232C activity int.
RC5 to E-box
VGA1
In
VGA
NVM DDC
Control
service int. pins
VGA1 Switch
UART (Ebox)
UART Interrupt gener.
PSU
AC i/p
Audio Processing
+9V_STBY
Per channel
L/R VGA in
L/R CVBS
L/R YC
L/R HD
L/R DVI
L/R Flex VGA (only output in Basic config.)
Audio Switch TEA6422D
MSP Audio Processor MSP3415G
HP Filter + Amp
LP Filter + Amp
Mute
Tweeter
Low/Mid
I²S
Audio Delay 32KSRAM CY7C1399
audio enable
Output Switch
+9V_STBY
Audio Amplifier
ON/OFF switch (see description)
RC / LED / Switch Panel
IR RXr (RC in)
Light Sensor
Red LED
Green LED
! All Functional blocks shaded grey are required for the"Basic Configuration".
The remainder is required for the "Enhanced Configuration".
* are optional or prepared
CL 26532038_006.eps
010502

Figure 9-1 Control and Data Path

9.1.1 Input/Output

The main inputs are:

- **Basic:** VGA only,
- **Enhanced:** VGA, Flex-VGA, DVI-D, HD-RGB+HV, HD-2fH-YPbPr (sync on Y), 1fH-YCbCr (sync on Y), YC, CVBS on cinch. Flex-VGA gives the user a choice to configure the "loop-through VGA output" as an output or as input.

9.1.2 Video

This mainly consists of an analogue processing part and a digital processing part. The video inputs like VGA (*Basic* configuration), CVBS, YC, HD-RGB/YUV (1fH and 2fH) and DVI-D are received and processed.
The VGA signals are first converted to digital signals and then processed by the PW Scaler.

The YPbPr (2fH) signal is discretely converted to RGB, whereas the YCbCr (1fH) signal is processed in the SAA7118 Digital Video decoder.

The base-band video inputs (CVBS and YC) are output from this decoder as digital YUV, which are then further processed by the Pixel Works Scaler (PW).

The signals on the digital DVI input are first decoded by the TMDS decoder inside the AD9887 and then processed by the PW Scaler.

The PW Scaler output is going through an EPLD and then via an LVDS Encoder to the Fujitsu/Hitachi PDP (Plasma Display Panel) as differential serial data. This PDP is based on ALiS (Alternate Lighting of Surface) technology and is an interlaced display, with separate odd and even fields to be displayed.

9.1.3 Audio

This mainly hosts the audio inputs for the various video inputs. They go through an I2C controlled source selector. The main audio processing is done by the Micronas MSP3415G version with built-in Ultra Bass-II algorithm.

A digital delay line is created using the I2S channel and SRAM. The delay created can be selected between two values, one for the Receiver box, and one for the Monitor.

The processed audio signals are then differentially transmitted to the audio amplifier panel. This amplifier drives a tweeter and a twin-drive woofer (low/mid range). Active filtering is done before the amplifiers.

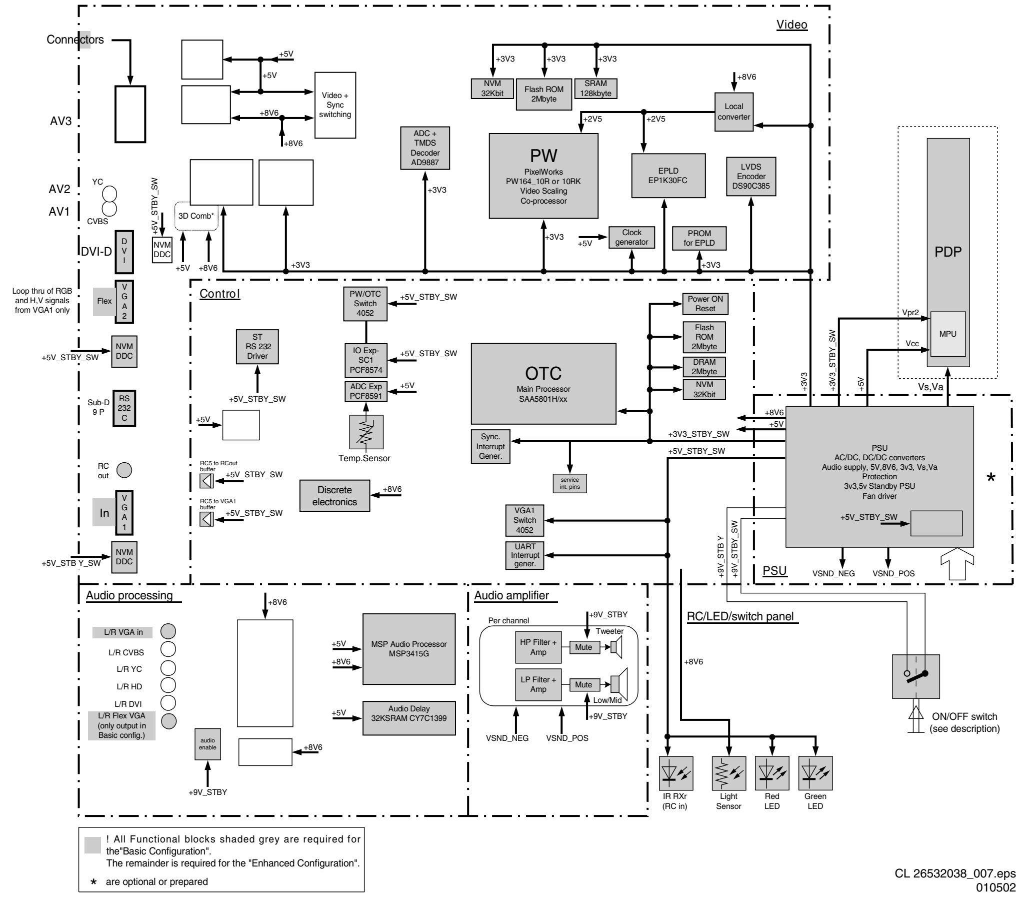
9.1.4 Control

The main controller is the OTC, referred to as the "main processor". This operates in co-ordination with the processor in the Pixel Works Scaler (PW), referred to as the "co-processor".

When the plasma monitor is connected to an F21RE Receiver box, the UART commands from the Receiver box will control the monitor.
In stand-alone mode, the monitor can be controlled via the Remote Control or via the RS232C port.

DDC1/2B (Digital Data Channel, an I2C-based protocol) is implemented with separate identification NVMs for the two VGA inputs and the DVI-D input as well. In addition, the RS232C port can be used for software download to the PW and the OTC. The target for downloading is controlled via a switch in the RS232C path; the switch itself is controlled by the OTC.

9.1.5 Power Supply


Video
Connectors
AV3
AV2
AV1
YC
CVBS
DVI-D
DVI
Loop thru of RGB and H,V signals from VGA1 only
Flex
VGA2
NVM DDC
+5V_STBY_SW
Sub-D 9 P
RS 232 C
RC out
In
VGA1
+5V_STB Y_SW
+5V
+8V6
Video + Sync switching
3D Comb*
+5V_STBY_SW
+3V3
ADC + TMDS Decoder AD9887
NVM 32Kbit
Flash ROM 2Mbyte
SRAM 128kbyte
+2V5
Local converter
PW
PixelWorks PW164_10R or 10RK Video Scaling Co-processor
EPLD EP1K30FC
LVDS Encoder DS90C385
Clock generator
PROM for EPLD
Control
PW/OTC Switch 4052
IO Exp-SC1 PCF8574
ADC Exp PCF8591
ST RS 232 Driver
Temp.Sensor
RC5 to RCout buffer
RC5 to VGA1 buffer
Discrete electronics
OTC
Main Processor SAA5801H/xx
Power ON Reset
Flash ROM 2Mbyte
DRAM 2Mbyte
NVM 32Kbit
Sync. Interrupt Gener.
service int. pins
VGA1 Switch 4052
UART Interrupt gener.
+3V3_STBY_SW
PDP
MPU
Vpr2
Vcc
Vs,Va
PSU
AC/DC, DC/DC converters
Audio supply, 5V,8V6, 3v3, Vs,Va
Protection
3v3,5v Standby PSU
Fan driver
*
+9V_STB Y
+9V_STBY_SW
VSND_NEG
VSND_POS
Audio processing
L/R VGA in
L/R CVBS
L/R YC
L/R HD
L/R DVI
L/R Flex VGA (only output in Basic config.)
audio enable
+9V_STBY
MSP Audio Processor MSP3415G
Audio Delay 32KSRAM CY7C1399
Audio amplifier
Per channel
HP Filter + Amp
LP Filter + Amp
Mute
Tweeter
Low/Mid
RC/LED/switch panel
IR RXr (RC in)
Light Sensor
Red LED
Green LED
ON/OFF switch (see description)
! All Functional blocks shaded grey are required for the"Basic Configuration".
The remainder is required for the "Enhanced Configuration".
* are optional or prepared
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010502

Figure 9-2 Power Supply Path

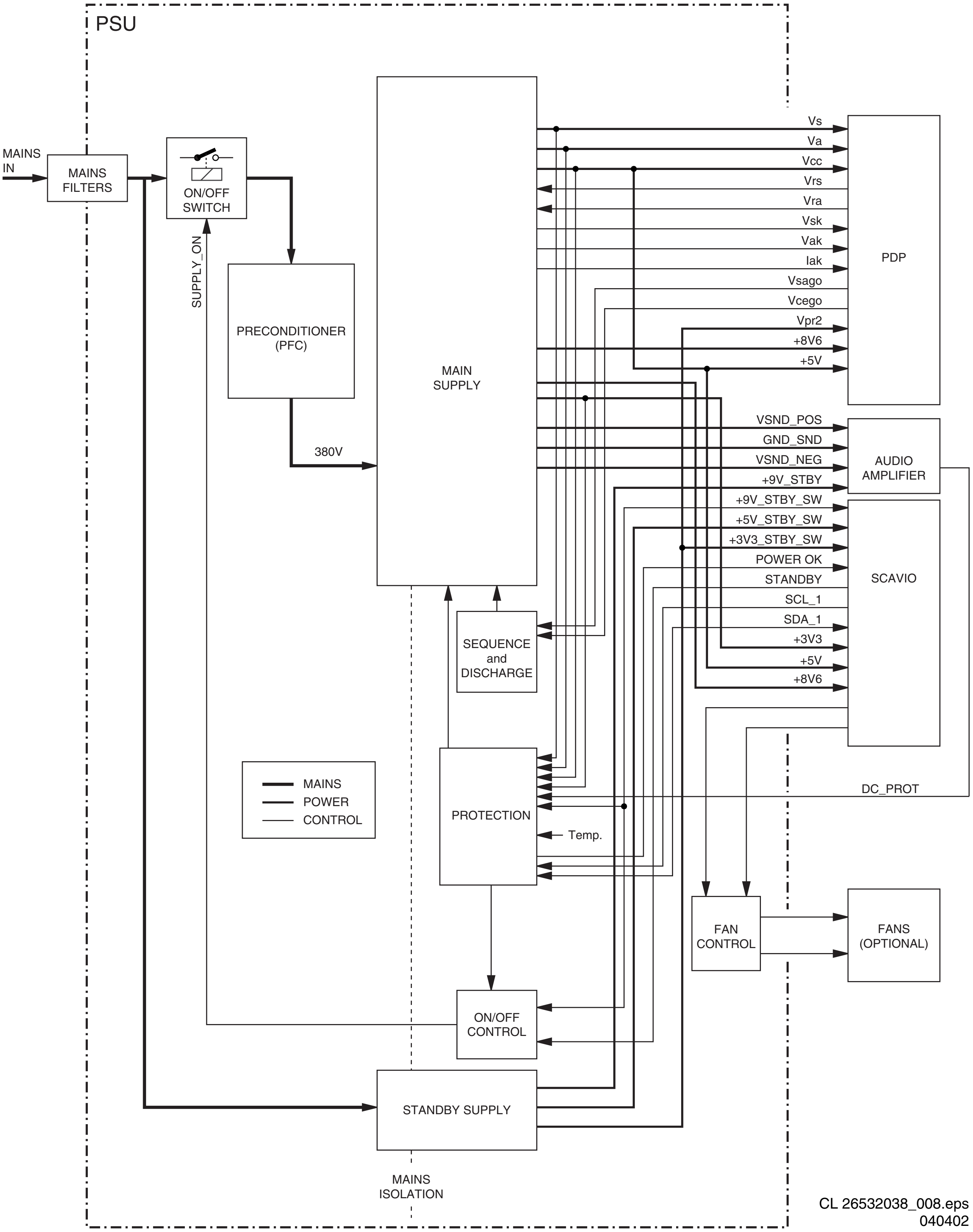
The PSU consists of a pre-conditioner part and a DC/DC converter part. This converter supplies power to the PDP high voltages, the auxiliary voltages, and the audio amplifier. There is a separate standby power supply, which supplies the Main Processor, PDP microcontroller, interrupt generator and some other circuits.

The mains inlet module will host the inlet and filtering.

There is a functional "Mains on/off" switch on the LED panel. This switch is on the secondary side, controlling the relays on the primary side.

9.2 Power Supply Unit (Diagrams P)

9.2.1 Introduction


PSU
MAINS IN
MAINS FILTERS
ON/OFF SWITCH
SUPPLY_ON
PRECONDITIONER (PFC)
380V
MAIN SUPPLY
Vs
Va
Vcc
Vrs
Vra
Vsk
Vak
Iak
Vsago
Vcego
Vpr2
+8V6
+5V
PDP
VSND_POS
GND_SND
VSND_NEG
AUDIO AMPLIFIER
+9V_STBY
+9V_STBY_SW
+5V_STBY_SW
+3V3_STBY_SW
POWER OK
STANDBY
SCL_1
SDA_1
+3V3
+5V
+8V6
SCAVIO
SEQUENCE and DISCHARGE
PROTECTION
Temp.
DC_PROT
MAINS
POWER
CONTROL
FAN CONTROL
FANS (OPTIONAL)
ON/OFF CONTROL
STANDBY SUPPLY
MAINS ISOLATION
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040402

Figure 9-3 Power Supply

Table 9-1 I/O Overview Power Supply

Name	I/O	Value	Description
+3V3	Out	+3.3 V_dc	To supply small signal digital circuitry.
+3V3_STBY_SW	Out	+3.3 V_dc	To supply small signal digital circuitry, needing power in standby
+5V	Out	+5 V_dc	To supply small signal digital circuitry.
+5V_STBY_SW	Out	+5 V_dc	To supply small signal digital circuitry, needing power in standby
+8V6	Out	+8.6 V_dc	To supply the small signal analogue circuitry.
+9V_STBY	Out	+9 V_dc	Signal to functional ON/OFF switch.
+9V_STBY_SW	Out	+9 V_dc	Signal from functional ON/OFF switch.
DC_PROT	In	H/L	Signal from audio amplifier to switch OFF the power supply in case of a safety problem.
FAN_SP_1	In	H/L (TTL level)	PWM signal from uP to control optional fans (group 1).
FAN_SP_2	In	H/L (TTL level)	PWM signal from uP to control optional fans (group 2). Not for FM33.
FAN_SUPPLY_1	Out	5 to 13 V_dc	Supply voltage for optional fans (group 1).
FAN_SUPPLY_2	Out	5 to 13 V_dc	Supply voltage for optional fans (group 2). Not for FM33.
I_ak	Out		Signal to measure 'I_a' in PDP (I_ak= 1 x I_a).
Mains	In	110/240 V_ac, 50/60 Hz	Mains voltage.
POWER_OK	Out	H/L (TTL level)	Signal to an interrupt pin of the uP, which indicates that the power supply is in regulation. If an error occurs, signal goes from H to L.
SCL_1	In	H/L	I2C clock line from uP.
SDA_1	In/ Out	H/L	Bi-directional I2C data line from/to uP.
STANDBY	In	H/L (TTL level)	Signal to switch the PSU to standby mode.
V_a	Out	+30 to +70 V_dc	To supply the addressing circuitry in the PDP.
V_ak	Out		Signal to measure Va in PDP (V_sk= 0.036 x V_a).
V_cc	Out	+5 V_dc	To supply small signal digital circuitry in the PDP.
V_cego	In	H/L (H= +2 V_dc)	Signal to switch the low voltage supplies ON/OFF.
V_ra	In		Signal to control Va (V_a= 30 + (20 x V_ra)).
V_rs	In		Signal to control Vs (V_s= 70 + (10 x V_rs)).
V_s	Out	+70 to +90 V_dc	To supply the sustain circuitry in the PDP.
V_sago	In	H/L (H= +2 V_dc)	Signal to switch the high voltage supplies (V_s and V_a) ON/OFF.
V_sk	Out		Signal to measure V_s in PDP (V_sk= 0.029 x V_s).
V_SND_POS	Out	+14.5 V_dc	To supply the audio amplifier panel.
V_SND_NEG	Out	-14.5 V_dc	To supply the audio amplifier panel.

The Power Supply Unit (PSU) is designed to provide regulated output voltages for the plasma display panel (PDP) and the built-in electronic panels (such as e.g. the SCAVIO and Audio Amplifier panels).
It houses the Pre-conditioner, DC/DC converters and the Standby circuitry. In addition, this panel will house the protection and the (optional) fan drive circuitry.
The mains inlet is mounted alongside the SCAVIO panel. It consists of the necessary high and low frequency mains filters.

The mains AC voltage is applied to the input filter and then fed to the standby supply. This supply is always operational and delivers the +9V_STBY voltage.
The task of the main supply is to deliver the supply voltages for the several electrical circuits in the plasma monitor.
It is switched via two single-pole relays, which are powered from the +9V_STBY voltage and controlled via the SUPPLY_ON signal.
The reason to choose for a separate standby supply instead of a single flyback supply is the requirement to have a low standby power consumption.

The PSU consists of the following parts (which are described separately):
- Mains inlet and filter.
- Standby supply.
- Fan control (optional).
- Pre-conditioner.
- LLC supply.
- Aux. supply.
- Protections.

Notes:
- To understand the descriptions below, see also the diagrams in Chapter 7.
- The descriptions are valid for the whole FM-range (FM23, FM24, and FM33). Where there are deviations, this will be highlighted per chassis.

9.2.2 Mains Inlet and Filter (Diagram P2)

Introduction
The mains filter provides common-mode and differential-mode filtering, to fulfil legal and self-imposed limits. Additional provisions are mains spikes and lightning protection.

Operation
The mains voltage is provided via mains inlet 0308, after which it is fused by a T6.3A fuse (item 1400).
The next part, the mains filter, is **optional**. It consists of an LC common mode filter section. This filter consists of two capacitors (items 2402 and 2403) from both phase and neutral to ground (to reduce the leakage current) and an inductor (5401). Interferences on one of the phases are shorted to ground via these capacitors.
Inductor 5401 also provides a differential-mode filtering with capacitor 2400. Resistor 3401 discharges this capacitor after the mains is disconnected.
A second common mode filter is made around coil 5402 and capacitor 2401. A third filter is made around coil 5404 and capacitor 2412 (*only for the FM24 and FM33*).

Resistor 3400 is a high energy VDR. The advantage of this VDR is that it can handle 400 V_ac without risk of fire. At high voltage peaks (e.g. lightning surge) on one of the phases, the

resistance of VDR 3400 will be very low, causing fuse 1400 to interrupt.
At a lightning surge on both phases with respect to chassis ground, mains filter 5401 will form a high resistance, through which the voltage will rise very sharply.
To prevent flashovers, a spark-gap/ resistor combination (items 1402 and 3404) is implemented.

9.2.3 Standby Supply (Diagram P2)

Introduction
The standby supply is a separate power supply, meant to reduce power consumption of the plasma monitor in standby mode. The standby supply operates on the AC voltage from the input filter part, and has to deliver a stable 9 V voltage.

It has three "mains isolated" outputs, and one "hot" output:
- +9V_STBY (called +9V_STBY_SW after the "on/off" switch 1101), to power the "on/off" relays in the pre-conditioner.
- +5V_STBY_SW (derived from the +9V_STBY via voltage regulator 7540)
- +3V3_STBY_SW, to supply the microprocessor of the PDP.
- 25V_HOT, to supply the LLC controller.

The standby supply is also connected to the pre-conditioner output (400V_HOT), in order to deliver a voltage as long as possible, after switch "off" and at mains dips.

Operation
The standby supply is always operational when the AC input voltage is present, so even when the POWER switch is in the "off" position. After a small rectifier (D6512/6513) and buffer capacitor (C2503), the generated DC voltage is applied to an SMPS (Switched Mode Power Supply).

The SMPS itself is build around IC7500, a "TINYSwitch" TNY256. This IC contains a control circuitry and a power MOSFET. It uses a simple "on/off" control loop to regulate the output voltage. The generated +9V_STBY voltage at the secondary side is rectified by D6504 and smoothed by C2508. The supply for the TNY256 (pin 5) comes via resistor R3506 and L5500.

By using secondary sensing, a very accurate standby voltage and high efficiency is achieved. The sensing circuit uses a TL431 as reference voltage/error amplifier. Optocoupler 7501 is used for the mains isolation.
When the output voltage rises, the reference voltage on the TL431 will exceed 2.5 V and the current through this device and the optocoupler LED will increase. By this, the optocoupler transistor will conduct more. When this current (at pin 4 of IC7500) exceeds 50 A, the MOSFET is switched "off", and the output voltage will drop. When this current drops below 40 A, the MOSFET is switched "on" again.

During the time that the MOSFET is "on", the IC has no supply voltage. To overcome this period, the energy stored in the bypass capacitor C2513 is used. This capacitor is charged during the time the MOSFET is "on".

As the TNY256 is sensitive for transients (mains spikes), a "peak clamp" circuit (300 V zenerdiodes 6501 and 6502) is used to limit the voltage to a safe level.

9.2.4 Fan Control (Optional, Diagram P4)

For ceiling mount or portrait-mode use, there is foreseen in four (two for the FM33) **optional** fans. The temperature within the monitor is measured via a sensor (R3372, KTY81) on the PSU. This sensor is, via A/D converter (item 7530 on the SCAVIO), connected to the OTC. According the temperature within the cabinet, the OTC-software will drive the PWM output of the OTC. The output (FAN_SP_x) is connected to the PSU, where a corresponding voltage is generated to supply the fans. This FAN_SUPPLY_x voltage is proportional to the duty cycle of the corresponding PWM signal.
The OTC senses the temperature every five s. If it has reached the alarm temperature, and this value has been measured three times consequently, the monitor will go into protection and a error-code is generated.

9.2.5 Pre-conditioner (Diagram P5)

Warning: the pre-conditioner does **not** provide mains isolation.

Introduction
The European Law describes a reduction of mains harmonics for apparatus with a power consumption above 75 W. Therefore the pre-conditioner is designed. This module serves as the interface between the mains input and the V_s/V_a supply.
The advantage of a pre-conditioner is (compared to a mains input filter):
- Reduction of mains harmonics to legal limits.
- Lower mains current for the same output power.
- Power factor close to 1.
- Stable regulated output.
- Small and low weight.

The input voltage of the pre-conditioner is universal, between 95 and 264 V_ac. The output is 400 V_dc (400V_HOT) with a maximum output power of 300 W (FM23) or 400 W (*FM24 and FM33*). This output voltage is delivered to the V_s supply.

Operation

Start-up
The two relays (1450 and 1460, diagram P2) are controlled via the SUPPLY_ON signal. This signal will become "high" when the +9V_STBY_SW, the STANDBY (from the OTC), and the LATCH signal are "ok". It then switches indirect relay 1450 via transistor 7460 and so enables the use of a small, low voltage, switch.
To protect rectifier 6600 and relay 1450, the inrush current is limited to a maximum of 20 A by charging the capacitor 2605 through a PTC (items 3450 and 3451) and an NTC (items 3452 and/or 3453).
After approximately 0.5 sec, relay 1460 is activated. This relay will short the PTCs. The advantage of using an NTC, is the fact that the resistance varies with the current and hence the mains voltage. At a high mains voltage, the current is lower for the same power.

Two clamp diodes 6605 and 6606, charge output capacitor C2616 to the peak voltage of the mains input. During normal operation, both diodes are blocked because of the output voltage of 400 V_dc, and will only conduct if there is a mains spike or an output dip.

Capacitor 2616 then delivers, via R3668, the start-up voltage at pin 16 of IC7650. After the start-up cycle, IC7650 is supplied via auxiliary winding 1-2. Capacitor C2663 is charged during the cycle that MOSFET 7610 conducts. While MOSFET 7610 is switched "off", this capacitor transfers its energy via D6661 to:
- The input of stabiliser IC7660 (*for FM23 and FM24*).
- The input of DC-DC converter IC7661 (*for FM33*). This circuit was changed for a better efficiency.

The output voltage of this IC is fed via D6665 to V_cc pin 12 of IC7650.The slow start function is realised by the circuit consisting of transistor 7654, D6654, R3654, and C2654.

Normal Operation
An up-converter circuit is used for the pre-conditioner. The switching frequency of the converter is chosen much higher than the mains frequency. It is therefore possible to consider the supply as constant, during every high frequency period,

and the envelope of all voltage steps during the low frequency period approximates a half sine wave.
The output voltage of the pre-conditioner equals the input voltage, when the MOSFET is continuous switched "off", and increases while the MOSFET is switched "on".

The rectified mains input voltage is connected to pin 5 of IC7650 via voltage divider R3603/04/05 and R3651. This voltage is proportional with the mains input, and is used to change the duty cycle of the pulses, which are generated at pin 11. Because the width of these pulses is not small enough, the circuit around transistors 7640 and 7641 is added. It decreases the duration of the square wave by 500 ns (this value is set by R3640 and C2640).
A demagnetisation winding (pin 1-2 of L5600) detects when there is no energy in the transformer. This information is fed to IC7650 pin 7 and this is used to switch "on" the MOSFET (7610). In this way, the dissipation is very low, combined with a low EMI.
The MOSFET 7610 is switched "off" at high currents, up to 15 A. To reduce dissipation, this is done at high speed for which "turn off driver" T7608 is used.

The output voltage (400 V) is divided by R3680/81/82 and R3671 and connected to pin 3 of IC7650. A change in the load will adjust the duty cycle of the gate pulse at pin 11, in order to keep the output voltage constant. Therefore, there is no need to adjust the output voltage by means of a potentiometer.

Protections

Current Protection
The current through FET 7610 flows also through the sense resistors 3614 and 3615. The voltage across these resistors is fed to pin 6 of IC7650. If the current exceeds its reference level, the pre-conditioner will switch "off". A filter, formed by C2666 and R3666, avoids unnecessary protection triggering due to spikes.
C2665 and R3665 on pin 13 determine the maximum oscillating frequency.

9.2.6 LLC Supply (Diagram P6)

Introduction

The V_s supply (70-90V) is based upon the so-called LLC converter technology (also used in the MG3.1 and FTV1.9). It is used to supply the power of the sustain pulses, which generate the light in the PDP. The voltage is set by a reference DC voltage (V_rs), coming from the PDP.
The V_a voltage (derived from V_s) is used to supply the power for driving the addressing electrodes of the PDP. The value of V_a is also depending on a reference voltage (V_ra) coming from the PDP.

The main supply hosts the following supplies:

- V_s supply, via an LLC converter.
- V_a supply, derived from V_s via a down converter.
- V_cc, via a flyback converter.
- 3V3, via a down converter.
- Audio amplifier supplies (V_SND_POS and V_SND_NEG), via a transformer.

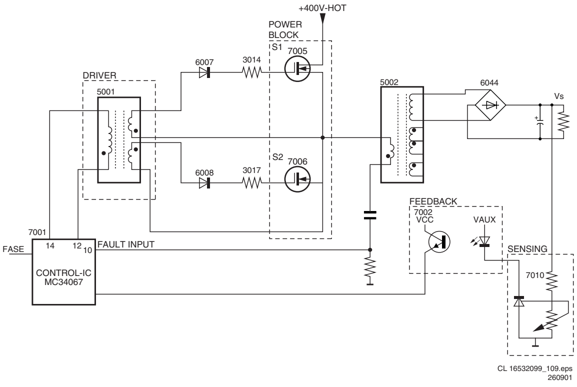

Figure 9-4 V_s supply

The start-up voltage for the IC is derived from one phase, the IC starts to oscillate, and alternately S1 and S2 are driven into conduction with a dead time in between. This effects that, via the resonance circuit and the MOSFETS, energy is stored into transformer L5002 (and L5004 for *FM24* and FM33).
The secondary voltages are rectified and smoothed, these voltages are, via a voltage divider, fed to the optocoupler that influences the oscillator frequency of the control IC and stabilises the secondary voltages. If the current becomes too high, the supply is switched "off" via the fault input of the control IC.

Advantages:

- High efficiency (more then 90%, other supplies 75%).
- Less radiation.
- Cost effective (two MOSFETS of 400 V cost less than one MOSFET of 600 V).

Disadvantages:

- Very low power stand-by impossible.
- Realisation and stabilisation is more complex.

Operation V_s Supply

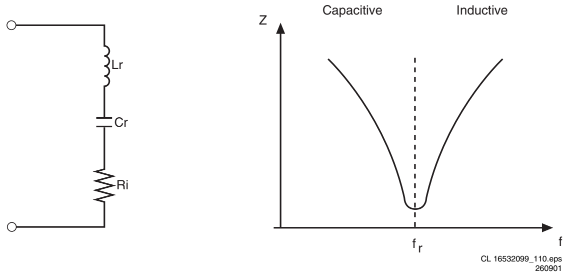

Figure 9-5 Impedance characteristic

General
The LLC supply is a serial resonance power supply. The coil, resistor, and capacitor form a trap at the resonance frequency f_r. The impedance is frequency dependent. The smallest impedance is at the resonance frequency (f_r), at the right side of f_r is the inductive part, and at the left side the capacitive part. The supply works in the inductive part, since higher frequencies causes minor losses.
Stabilisation is realised, by regulating the frequency as function of the output voltage (V_S_UNSW) and power. The load is stabilised by influencing the series-loop. The higher the frequency, the lower the output power.

The supply voltage of the control IC comes from the 25V_HOT voltage of the standby supply (via stabiliser 7093), and is lead to pin 15 of the IC. The IC starts to oscillate. This supply line has a short-circuit protection via opto-coupler 7003; when the supply is regulating, the current through the opto-coupler is amplified and will deliver power to the IC.

Control is done in the usual way by a TL431 at the secondary side. Voltage V_rs, a control signal coming from the display, is mixed into the feedback voltage, using an additional TL431 (7011 at schematic P6). It influences the output of the V_s supply. The output voltage of the V_s supply varies according the following formula: V_s = 70 + (10 * V_rs). Via this stabilisation circuitry for V_s, the output voltage is stabilised. If necessary, it is possible to adjust the voltage via potmeter R3026 (not for FM33).
The V_s is fed via a voltage divider to IC7010 (TL431). If the voltage at pin 3 of IC7010 is higher than 2.5 V, a current will flow from cathode to anode. This current also flows through the secondary side of the optocoupler 7002. The voltage at pin 7 of the MC34067, determines the output frequency. The higher this voltage, the higher the output frequency. Thus, if the voltage on pin 7 increases, the frequency increases and V_s decreases.
When the output voltage rises, the voltage at the reference IC7010 also rises, this causes the current through the diode of the opto-coupler to rise. The transistor of the opto-coupler conducts more, because of which the voltage at pin 7 of the MC34067 increases.

Accurate Over Voltage Protection (OVP) is added, using a TL431 (7304, diagram P3) as reference/comparator and an additional optocoupler (7003) that acts on the fault input pin 10 of the MC34067P (see also "Power Supply Protections ").

The Controller
The MC34067P controller, is used for the following reasons:

- Zero voltage switching.
- Variable frequency oscillator (above 1 MHz).
- Precision one-shot timer for the dead time.
- 5 V reference output.
- Double, high current totem-pole output.
- Soft start.
- Wideband error amplifier.
- Fault input (protection).

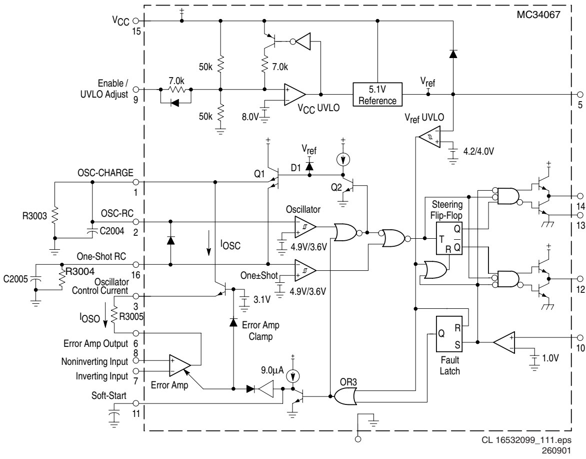

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Figure 9-6 MC34067

The oscillator circuit is build around an internal comparator with two threshold-voltages: 4.9 and 3.6 V.
C2004 is first charged via transistor Q1. If the voltage across C2004 is more then 4.9 V, the output of the upper comparator becomes low, the NOR-port output will be high, and Q1 will be blocked because the base will be shortened by Q2. C2004 will be discharged via the resistors R3003 and the oscillator control current (I_osc).
If the voltage across C2004 is below the lower threshold (3.6 V), transistor Q1 is conducting and the capacitor is charged again. The oscillation frequency is modulated by the oscillator control current.
The discharge current increases, when pin 3 is loaded even more; thus the lower the voltage on pin 3, the higher the oscillator control current and the higher the frequency. The maximum frequency is reached when the output of the error amp is minimal (0.1 V). Thus, R3005 determines the maximum frequency.
The minimum frequency is reached, when I_osc current is zero: C2004 then discharges only via the resistor R3003.

One Shot Timer
The one-shot timer is present, to de-activate both outputs simultaneously, and to provide a dead time, so that only one output will be activated.
The one-shot capacitor (C2005) is first charged by Q1. The one-shot period begins when the oscillator comparator is switched "off" by Q1. The one-shot capacitor is discharged via the parallel resistance (R3004): if this voltage gets lower than the lower threshold of 3.6 V, the comparator will be high and controls the flip-flop, which makes one of both outputs high.
If Q1 is re-conducted through the oscillator comparator, the one-shot capacitor is re-charged.

Fault Detector Input
At pin 10, there is a fault detector input. If this voltage reaches 1 V, the output of the OpAmp goes high, and both drive outputs are switched "off".
In addition, the output of OR3 will be high via the "fault latch". The output of OR3 drives Q1, so both the oscillator and the one-shot-capacitor remain charged. Via OR3, the soft-start capacitor is discharged.

Soft-start
Due to the soft-start circuit, the oscillator starts with maximum frequency. The low voltage on the soft-start capacitor (C2027) is buffered and keeps the error amplifier output low (if I_osc = max then f_osc = max).
The capacitor is charged with a current of 9 uA, the output of the buffer gets high, and the error amplifier input takes charge of the oscillator control current.

Driver stage
The two secondary windings of the driver transformer control the two switching MOSFETs. The primary winding of the driver transformer is alternately controlled by the two totem-pole outputs of the controller. Cross-conduction of both MOSFETs is prevented by the dead time.
The gate of each MOSFET is controlled via diodes 6007/6008 and resistors 3014/3017.
The transistors 7007/7008 discharge the gate faster by switching "off" situations.
The diodes 6017/6028 at the base-emitter of 7007/7008 prevent the zener effect of these transistors.
The zener diodes at the gate-source of 7005/7006 are for ESD protection.
C2011 and C2014, form the capacity for the series resonant circuit.

MOSFET switching
The total switching time can be distributed over 12 phases with different current paths. Only four phases are discussed to simplify the explanation:

Phase 1 (S1 closed, S2 open)

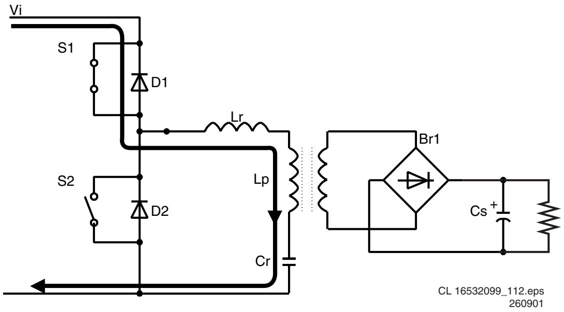

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Figure 9-7 Phase 1 Resonance Supply

The gate of MOSFET 1 is positive, which causes S1 to close. The input voltage Vi of 400 V_dc provides a current flow through S1 and the series circuit. At the same time, a current flows through the rectifier diodes in the secondary winding, which will charge capacitor Cs.
The current through Lr starts negative, but it is increasing to change polarity.
Capacitor Cr is charged sinusoidal, while the voltage at Lr drops. This makes the current drop.

Phase 2 (S1 open, S2 open = dead time)

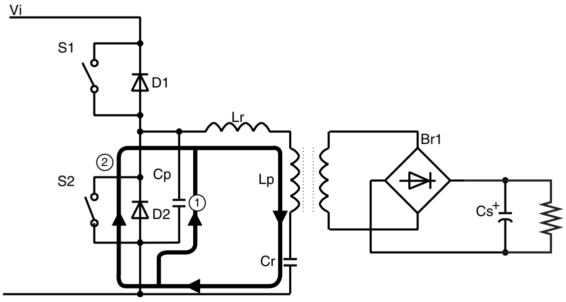

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Figure 9-8 Phase 2 Resonance Supply

Before the current reaches zero, S1 is opened. Now, both MOSFETs are not conducting. However, the current through the coils wants to continue. The capacity Cp releases its load to the series circuit, and the voltage at Cr continues to rise (Cp is the sum of several parasitic capacities).
1) The voltage at the drain of MOSFET 2 drops, because Cp is discharged at this moment [1]. This causes a voltage inversion across Lr and Lp. The secondary winding begins to feed back, charging capacitor Cs.
2) The voltage becomes negative, and diode D2 starts to conduct [2]. The secondary bridge remains conducting.

Phase 3 (S1 open, S2 closed)

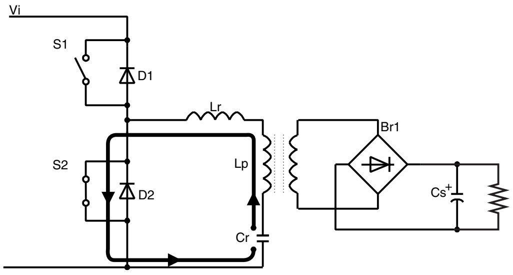

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Figure 9-9 Phase 3 Resonance Supply

The gate of MOSFET 2 is becoming high. The current through D2 is taken over by MOSFET 2. The switching losses are negligible, because the voltage across the switch is now approximately 1 V.
The current through Lr starts negative, but is increasing to change polarity. A current flows through MOSFET 2 and the series circuit. The bridge remains conducting, but its current gets zero because of the decreasing voltage across Lp. This is caused by the discharge of capacitor Cr. The voltage at capacitor Cr is decreasing sinusoidal and so is the voltage across Lp and Lr.

Phase 4 (S1 open, S2 open = dead time)

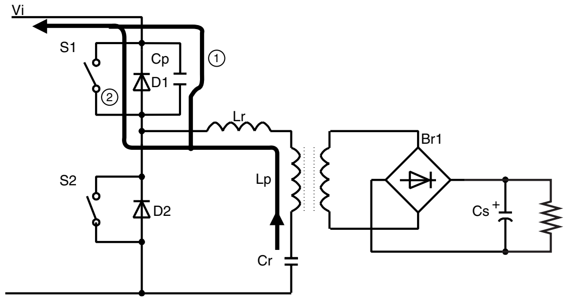

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Figure 9-10 Phase 4 Resonance Supply

Before the current reaches zero, S2 is opened. Now, both MOSFETs are not conducting, but the current through the coils wants to continue. The capacity Cp releases its load to the series circuit, and the voltage at Cr continues to fall (Cp is the sum of several parasitic capacities).
1) The voltage at the drain of MOSFET 2 increases, because Cp is discharged at this moment [1] (Cp was charged to 400 V). This causes a voltage inversion across Lr and Lp. The secondary winding begins to feed back, charging capacitor Cs.
2) The voltage becomes higher than 400 V, and diode D1 starts to conduct [2]. The secondary bridge remains conducting.

Protections MC34067

Over Current Protection (OCP)
The voltage at R3021 is a criterion for the current, which flows through the primary winding. Via C2015 and D6010, the negative information is clamped at -0.6 V. The total amplitude is rectified via D6009 and C2010, and via R3020 and TS7009 supplied to the fault input (pin 10) of the controller.
When the fault input is higher than 1 V, the protection is activated.

Over Voltage Protection (OVP)
The voltage at R3010 is the take-over-winding voltage. This voltage is also supplied to pin 10 of the controller via a voltage divider R3010/R3011 When the fault input is higher than 1 V, the protection is activated.

Soft-start Over Current Protection
If short-term over current peaks occur, the frequency is adapted. The voltage at R3021 is clamped at -0.6 V via C2015 and D6010. The total amplitude is rectified via D6011 and C2008, and supplied to the "thyristor" TS7017/18 via R3012. When the voltage at the emitter of TS7017 gets higher than 5 V, the soft-start capacitor C2027 is discharged and the frequency increases. Because of this, the V_s will drop. If this voltage remains 5 V, the supply is interrupted (hick-up).
This circuit is adjusted in such a way, that the voltage does not drop too much if a flash occurs.

9.2.7 Aux. Supply (Diagram P7)

The "Aux. Supply" part hosts the supplies that are derived from the V_s supply:

- V_a supply.
- V_cc supply.
- 3V3 supply.
- Audio supply (V_SND_POS and V_SND_NEG).

Note:
In the FM24 monitor, a circuit is added (around 7143, 7144, and 7145), which takes care that the V_a and V_s supplies are discharged immediately after set switch "off". This to prevent discharge spikes of the elcaps. The circuit will ground the supply voltage of IC7112 as soon as its trigger line (+9V_STBY_SW) is switched "off".

V_a Supply
The V_a voltage is derived from the V_s voltage via the "down converter" principle. Control IC TEA1507 (item IC7112) and MOSFET TS7117 are used.

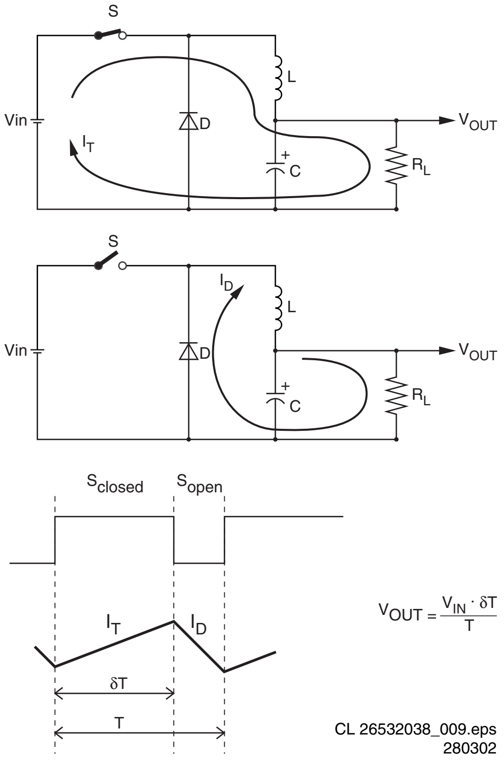

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Figure 9-11 Principle of Down Converter

After closing switch "S", the linear in time increasing current I_T will charge capacitor C.
Opening switch "S" will generate a counter-e.m.f. (= reverse voltage) in coil L, trying to maintain current I_T. This is possible via diode D (this diode is also called "freewheel diode"). Therefore, after opening "S", the magnetic energy stored in coil L will be transferred to electrostatic energy in capacitor C. The V_in will only supply current during the time that "S" is closed while a constant current is flowing through R_L.
V_out is directly proportional with V_in and the time that "S" is closed, and reverse proportional with period time "T". Therefore, by changing the duty cycle, it will be possible to control V_out.
To apply this on this chassis (diagram P7): replace switch "S" by FET TS7117, coil L by L5120 (or L5121 for the FM33), diode D by D6120, C by C2121, V_in= 77-100V, and V_out= V_a.

Stabilising is done in the same way as for the V_s supply. Voltage V_ra , coming from the display, is mixed into the feedback voltage using an additional TL431 (item 7130). This influences the output of the V_a supply. The output voltage of the V_a supply varies according the following formula: V_a = 30 + (20 * V_ra).

V_cc Supply
This part delivers, besides the V_cc voltage, also +12V (+10V for the FM33) for the optional fan control and, derived from this voltage, an +8V6 (for small signal analogue circuitry).
The V_cc voltage is derived from the V_s voltage via the flyback converter principle. Control IC TEA1507 (item 7212) and MOSFET 7217 are used.

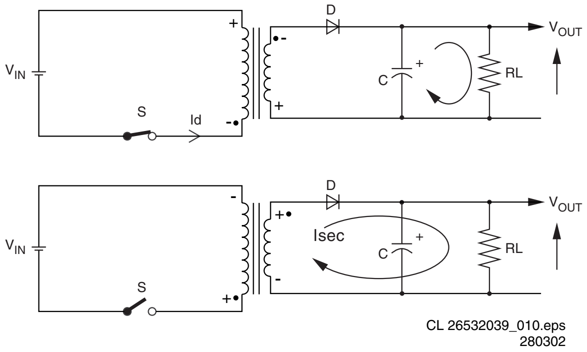

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Figure 9-12 Principle of Flyback Converter

After closing switch "S", the current I_D will increase linear in time. The magnetic energy in the primary coil is directly proportional with the self-inductance of the coil and current I_D (thus with the time the switch is closed).
The voltage polarity at the secondary winding is negative (due to different winding direction), meaning that diode D will block. Capacitor C will discharge via R_L, and V_out will decrease.
Opening switch "S" will generate a counter-e.m.f. in the primary winding, trying to maintain current I_D. Through this the polarity of the secondary voltage will inverse. The magnetic energy, stored in the coil, will now be transformed to the secondary side. Diode D will now conduct, capacitor C will be charged and V_out will increase.
To apply this on this chassis (diagram P7): replace switch "S" by FET TS7217, coil L by L5220, diode D by D6224, C by C2224, V_in= V_S_UNSW, and V_out= V_cc.

Note: While in the *FM23 and FM24* the +12V is derived via the flyback converter principle, in the FM33 this is done via a voltage doubler circuit.
The negative side of C2229 has an average voltage level of 0 V as it is connected to the secondary side of L5220. Its positive side is connected to the +5V (V_cc). When diode D6225 conducts, there will be +5.5 V on its anode (+5 V plus the forward voltage). This means that there will be +10.5 V at the positive side of C2229. The resulting voltage over C2230 will be +10 V (+10.5 V minus the diode forward voltage of D6230).

3V3 Supply
The +3.3 V is generated to supply the SCAVIO panel. This voltage, is directly derived from the LLC supply (diagram P6):

- FM23: Via a fuse (1005/1045), this voltage is rectified by diodes 6021/6045 and smoothed by C2022 (+18V line). Via control IC L4973V (item 7260, diagram P7), the 3V3 voltage is generated. This IC contains a complete down converter, with integrated MOSFET.
- FM24: Via a fuse (1005/1045), this voltage is rectified by diodes 6021/6045 and smoothed by C2022 (+15V line). Via control IC L4973V (item 7260, diagram P7), the 3V3 voltage is generated. This IC contains a complete down converter, with integrated MOSFET.
- FM33: Via a fuse (1082/1083), this voltage is rectified by diodes 6021/6045 and smoothed by C2022 (+9V line). Via control IC L6910 (item 7260, diagram P7), the 3V3 voltage is generated. This IC contains a complete down converter, with integrated MOSFET. This IC has a better efficiency

compared to the L4973V that is used in the *FM23 and FM24*.

All these circuits use double diodes per voltage, in order create a symmetrical load for the transformer.

Audio Supply

This is a "floating" symmetrical supply (±14.5 V) derived from V_s via transformer 5290. Because this voltage is tightly coupled to the V_s voltage, this voltage varies considerable, between 11 V (max. load, V_s = 70 V) and 20 V (min. load, V_s = 90 V).

The Audio ground is connected to the normal secondary ground, with a capacitor (C2290) and a resistor (R3292) in parallel, in order to suppress spurious oscillations.

9.2.8 Power Supply Protections (Diagram P3)

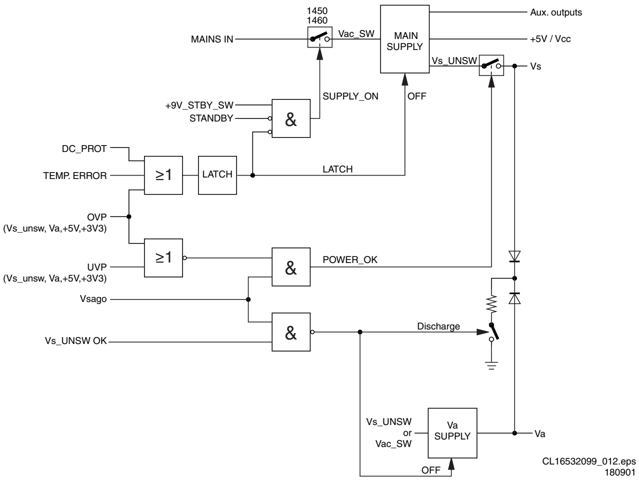


Figure 9-13 Protections

In general, all efforts are taken, to make a safe power supply. Therefore, all major outputs are monitored with respect to over- and/or under voltage. All protections are handled by hardware. The software only monitors the hardware to generate error codes for service.

Via I2C, errors of the power supply are transmitted to the microprocessor on the SCAVIO panel. If an error occurs, the POWER_OK line will change from "high" to "low". The errors are transmitted to the microprocessor, on the following ports and pin numbers of the I/O expander PCF8574AT (item 7370):

Table 9-2 IC7370 Inputs

Pin	Name	Description
4	V_s	Detection of under- or overvoltage on V_s
5	V_a	Detection of under- or overvoltage on V_a
6	+5V	Detection of under- or overvoltage on +5V
7	+3V3	Detection of under- or overvoltage on +3V3
9	OVP	Detection of overvoltage on V_s, V_a, +5V or +3V3
10	Switch	Detection of functional switch
11	DC_PROT	Detection of DC_PROT going high
12	TEMP	Detection of over temp. inside power supply

This POWER_OK signal is connected to an interrupt pin of the OTC, in order to be read as fast as possible. This is very important in case of a time-limited error like over-voltage. After detection of the error, the control system will log the error in NVM, and transmit the first occurrence back to the power supply through the I2C bus.

Note: The POK signal is fed to buffer 7366, together with the "8V6_UNDER_VOLTAGE" and "SWITCH" sensing. The output of this buffer, the POWER_OK line, will follow the inputs.

Operation

V_s Protection

Detection of over- or under voltage on V_S_UNSW by comparators IC7308-A and -B. If this voltage exceeds certain levels (set via voltage dividers), the protection will activate the Power OK (POK, active "low"), which will shut down the set.

V_a Protection

Detection of over- or under voltage on V_a by comparators IC7308-C and -D. If this voltage exceeds certain levels (set via voltage dividers), the protection will activate the Power OK (POK, active "low"), which will shut down the set.

V_cc Protection

Detection of over- or under voltage on V_cc (+5 V) by comparators IC7330-A and -B. If this voltage exceeds certain levels (set via voltage dividers), the protection will activate the Power OK (POK, active "low"), which will shut down the set.

+3V3 Protection

Detection of over- or under voltage on the +3V3 voltage by comparators IC7330-C and -D. If this voltage exceeds certain levels (set via voltage dividers), the protection will activate the Power OK (POK, active "low"), which will shut down the set.

OVP protection

This line detects, if one of the above mentioned voltage protections is an over-voltage protection. Therefore, this works in combination with the above-mentioned under/over voltage protections.

Latch Protection

When an OVP-, DC-, or Temperature protection occurs, thyristor 6348 is fired and the LATCH signal is made "low". This signal will switch "off" the main supply and prevents that the supply is switched "on" again, as long as the protection is active.

In addition, the V_cego signal can activate the LATCH signal (via TS7352 and 7348), but this is temporarily. This is done for correct start-up behaviour.

DC Protection

Detection of a DC voltage on the audio amplifier outputs. If a DC voltage is detected, TS7362 will activate the Power OK (POK, active "low"), which will shut down the set.

Temperature Protection

- *FM23 and FM24*: Detection of the temperature (via PTC 3368) in the power supply by comparator IC7366-A. If this voltage exceeds a certain level (set via voltage dividers), the protection will activate the Power OK (POK), which will shut down the set.
- *FM33:* via an I2C temp sensor IC7372. This LM75A is a temperature-to-digital converter using an on-chip temperature sensor, and provides an Over-temp Shutdown (OS) output. It communicates via I2C. The device is powered-up in normal operation mode with the OS in comparator mode, temperature threshold of 80 °C and hysteresis of 75 °C, so that it can be used as a stand-alone thermostat with those pre-defined temperature set points.

9.3 VGA Connector Panel (Diagram VGA)

The Video Graphics Array (VGA) panel serves as an interface between the peripheral VGA equipment (Receiver box, PC, etc.) and the SCAVIO panel. Some specifications of this panel:

- Two NVMs are present, which hold identification data for the DDC line.
- Further, there are buffers present for the incoming and outgoing sync signals.
- RC_OUT cinch for linking with other equipment.
- Provision to terminate the incoming sync lines with 75 Ohm via the EBOX_PRESENT line.

For a description, see the next "SCAVIO" chapter.

9.4 SCAVIO Panel (Diagrams SC)

The Scaler Control Audio Video Input Output (SCAVIO) panel contains:

- All the input connectors,
- Analogue and digital video processing,
- Scaler (co-processor)
- Interface to the PDP,
- Audio processing (excluding the audio amplifier),
- OTC (main processor), and
- RS232C in/out.

Note: There are two versions of this panel, a *Basic* and an *Enhanced* version. Therefore, many components are not mounted for the *Basic* version.

For the circuit description, we divide the board into the following parts:

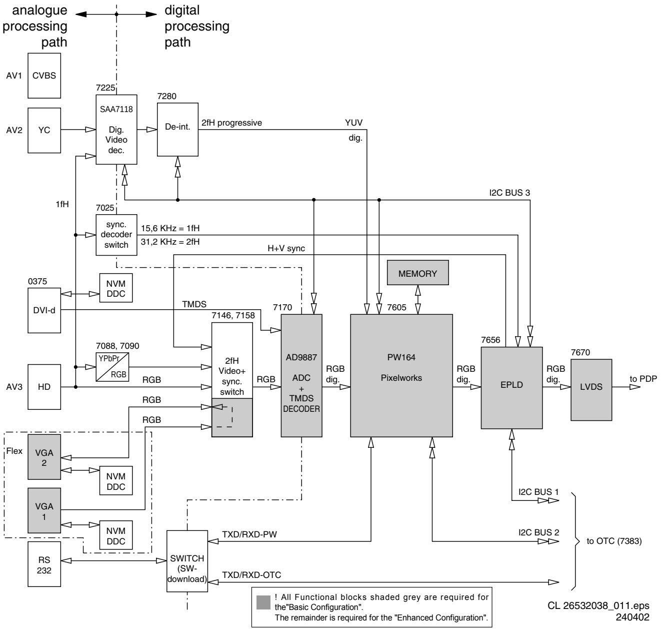
1. Supply
2. Video processing
3. Audio processing
4. Control

9.4.1 Supply

See figure "Power Supply Path" in paragraph "Power Supply 9.1.5".

9.4.2 Video Processing (Diagrams SC3, 4, 5, 6, 10, 11 and 12)

Introduction



! All Functional blocks shaded grey are required for the"Basic Configuration".
The remainder is required for the "Enhanced Configuration".

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Figure 9-14 Video path

This mainly consists of a small analogue processing part and a bigger digital signal processing part.
The video inputs like CVBS, YC, High Definition RGB, or YUV (1fH and 2fH), VGA, and DVI-D are received and processed. The YPbPr (2fH) is discretely converted to RGB, whereas the YCbCr (1fH) is processed in the SAA7118 Digital Video decoder. The base-band video inputs (CVBS and YC) are output from the digital video decoder as digital YUV, which are then further processed by the Pixel Works Scaler.
The VGA signals are first AD converted and then processed by the PW Scaler.
The digital input on the DVI is first decoded by the TMDS decoder inside the AD9887 and then processed by the PW Scaler.
The PW Scaler output is going through an EPLD and then via the LVDS transmitter to the PDP (Plasma Display Panel) as differential serial data. The PDP is based on ALiS (Alternate Lighting of Surface) technology and is an interlaced display, with separate ODD and EVEN fields to be displayed.

Analogue Video

This part describes the analogue video and synchronisation path of all inputs, until it reaches the "analogue digital converters" of either the AD9887 (ADC+TMDS Decoder) or the SAA7118E (Digital Video Decoder).
In addition, the switching part is described and the necessary control signals.
In principle, all video control functions are done by the Pixel Works processor.

Note: This part also includes the VGA connector panel that is mounted on top of the SCAVIO panel.

Inputs

There are five video inputs, which are divided in three types:

- **VGA** (2fH): named VGA1 and VGA2. Both are 15-pole SUB-D connectors for RGB and HV, and are situated on the VGA connector panel. For automatic identification by a PC, each VGA input is foreseen with a DDC NVM IC. VGA2 is set default as loop through of VGA1. In the *Enhanced* version, VGA2 can be switched as output, via the control signals VGA2_OUT and VGA2_EN.
- **YPbPr/RGB** (combined 2fH and 1fH): named AV3 and suitable for YCbCr/HD-YPbPr/HD-RGB + HV. These are cinch inputs. YPbPr and RGB are seen as separate inputs by the HW and must be properly selected by SW.
- **CVBS** like (1fH): named AV1 for CVBS and AV2 for Y/C. These are also cinch inputs.

Video Path

The 1fH signals (including YPbPr) are buffered (item 7113/21/17) and go directly to a digital video processor, the SAA7118E (item 7225 on diagram SC5), where they are converted into a digital signal.

The 2fH signals are also buffered; both YPbPr (item 7074/84/79) and RGB (item 7141/38/35) buffers get the same input signals.
When YPbPr signals are connected, the correct input must be selected, to get a picture with proper colours. Thus, the signals must pass a video matrix (item 7088/90, see diagram SC3), where they are converted into RGB. There are two matrices, an NTSC and an ATSC. With the MATRIX_SEL signal, the correct matrix is chosen (item 7089). The detection is done automatic, by an algorithm in the EPLD.
After the matrix, the signals enter a clamp/blanking circuit (7102/03/04 and 7100), for the removal of the residual sync signals. The control is done via the lines HD_BLANKN and HD_CLAMPN coming from the EPLD.

All RGB signals come together at 4-pole switches (item 7146/58), one for each colour, where they are switched to the AD converter item 7170 (R_ADC, G_ADC and B_ADC).

Sync Path

All incoming H and V sync signals go to a 4-pole switch (item 7009) where SYNC_SEL and VIDEO_SEL_2 determine, which signal is available on the ADC.
Before this switch, the VGA sync path is rather straight, only 1 switch (item 7007) is added for the VGA2 sync signals, which determines if VGA2 sync is input or output (VGA2_OUT).
In the *Basic* configuration, these switches are omitted, and replaced by jumpers (4009/4010).

The external sync (AV1 - 3) signals are treated differently. Both H_HD_EXT and V_HD_EXT go to three circuits:

- A comparator circuitry with an LM319 (item 7025), to ensure both sync pulses are always positive going (H and V_SYNC_CMP),
- A level detection circuitry (items 7000 to 7002), to detect if the sync is of TTL level (H and V_SYNC_TTL),
- A positive/negative going detection circuitry (items 7006 to 7010), to indicate the polarity of the sync in case of TTL level (H and V_SYNC_POL_N).

All above-mentioned signals go to the EPLD (see diagram SC11) for further processing.

Processed sync signals H_HD and V_HD coming from the EPLD, are also switched to the ADC (H_ADC and V_ADC) along with the proper RGB signals (R_ADC, G_ADC and B_ADC).

Digital Video

This part describes the digital video path on the SCAVIO panel, starting at the AD converters in either the AD9887 (item 7170) or in the SAA7118E (item 7225) and ending at the output for the PDP.
For both the *Basic* as the *Enhanced* version, everything "after" the Pixel Works chip, is equal.
For the *Basic* version, the input for the Pixel Works only consists of the "Graphics path".
For the *Enhanced* version, it is both the "Graphics path" as the "Video path".

The SCAVIO panel contains the following functions in the video path:

1. The "YPbPr to RGB matrix" and "2fH Video+Sync Switch" are explained above in the "Analogue Video" part.
2. The "Digital Video" path containing the Digital Video Decoder and the De-interlacer.
3. The "Digital Graphics" path containing the ADC+TMDS decoder.
4. The "Scaler" which is the Pixel Works (PW164-10R) plus Memory.
5. The "EPLD" for sync decoding and video manipulation.
6. The "LVDS" encoder.

The Digital "Graphics Path"

This is a straightforward application of the Analogue Devices AD9887 (item 7170). Inputs for this device are:

- FTV Receiver box,
- VGA formats (up to SXGA at 75 Hz),
- 2fH RGB+HV (only in *Enhanced* version),
- 2fH YPbPr, which is converted to RGB by the "YUV to RGB" matrix (only in *Enhanced* version),
- DVI-d (only in *Enhanced* version).

Analogue input: The AD9887 is meant to sample "pixel synchronous". To achieve this, a (software) driver is running on the Pixel Works processor (PW). After hooking up a source to the AD9887, the PW starts counting the number of lines per field and calculates the H-period time. With these two values, it determines the exact match or the closest match out of a look-up-table (LUT) with VGA standards. When the correct standard is determined, the PW will set the AD9887 I2C registers to the correct value. The AD9887 should now sample with exact the same frequency as the incoming standard requires. This is done to get an optimal picture performance.
It also is a "must" when a computer graphics card is connected, because there is no, or very little, post anti-aliasing filtering done on such cards. Therefore, the outputted RGB samples need to be exactly aligned with the sampling of the AD converter.
Analogue input signals can go up to "SXGA at 75 Hz" format, which gives a pixel clock of 135 MHz. In fact, it can handle any standard with a pixel rate up to 140 MHz.
Special modes are made for the F21R E-box, for both PAL and NTSC. These are invoked when an E-box is connected to the SCAVIO panel.

Digital input: Via the DVI connector (*Enhanced* version only) it is possible to insert TMDS (Transition Minimised Differential Signalling) data into the SCAVIO panel. DVI is a fairly new computer graphics standard, which can be seen as the digital follow-up of the analogue VGA interface. The TMDS signal is directly fed into the AD9887, where any DVI standard up to "SXGA at 60 Hz" can be decoded to RGBHV.
The preferred VGA standard for this chassis is programmed in the DDC EEPROM (item 7215), which can be read by the PC.
Via an internal switch, it is possible to choose between the analogue input and the digital input. The output format is for both inputs the same (8 bit RGB plus HV). The driver determines whether the AD9887 outputs single or dual pixels. For lower standards like "VGA at 60 Hz", the interface will be single pixel, which means that every clock cycle one byte of R, G, and B data is outputted. Dual pixel means that on every clock cycle two bytes of R, G, and B data outputted. These two bytes are de-multiplexed, which is done to make the interface more robust for jitter, set-up, and hold times, and to reduce the digital data rate over the PCB (reduced EMC).

Digital "Video Path"

This path is only available in the *Enhanced* version of the SCAVIO panel and is used for the following input signals:

- CVBS input,
- Y/C input, and
- 1fH YPbPr.

It is a straightforward application of the Philips SAA7118 (item 7225) and the Micronas SDA9400 (item 7280).
The SAA7118 is a PAL/NTSC/SECAM Digital Video Decoder with adaptive digital comb filter and component video input. It decodes all input standards to 4:2:2 YCbCr, which then is processed by the SDA9400.

The SDA9400 is a motion adaptive de-interlacer, which makes a progressive video signal from the interlaced input.
Depending on the motion in the picture, it will just interleave the odd and even field (no motion: ABAB) or repeats the same field twice; this is also known as line doubling (motion: AABB). The motion detection is pixel based, with a soft-switch between "motion" and "no motion".

After the de-interlacer, the signal is fed as a 4:2:2 YCbCr progressive scan signal to the video port of the Pixel Works processor.

The Pixel Works PW164 Scaler

The Pixel Works PW164 Image Processor is a highly integrated (Ball Grid Array, BGA) chip, which interfaces video inputs and computer graphics in virtually any format to the PDP.

Computer images from VGA to UXGA resolution input to the chip can be resized to fit on the PDP. Horizontal and vertical image scalers, coupled with intelligent frame locking circuitry create sharp images, centred on the screen and without user intervention. An embedded DRAM frame buffer and memory controller perform the frame rate conversion.

Video data from 4:3 aspect ratio NTSC or PAL and 16:9 aspect ratio sources such as HDTV and DVD are supported. Non-linear scaling (only with Receiver Box) and separate horizontal and vertical scalers allow these inputs to be resized optimally for the native resolution of the PDP.

For more information, see *http://www.pixelworksinc.com/index.phtml*

Table 9-3 Pixel Works Scaler: Ports

Pin	Name	I/O	Remark
C2	PW_SCL	+3V3 out	to I2C devices, Video related
B1	PW_SDA	+3V3 out	to I2C devices, Video related
A1	PW_SDA_NVM	+3V3 out	to I2C device NVM
C4	PW_SCL_NVM	+3V3 out	to I2C device NVM
B3	VGA2_OUTN	+3V3 out	Selects VGA 2 as output. (Low => Output)
A2	VGA2_EN	+3V3 out	Enables VGA 2 (High = Enable)
A3	VIDEO_SEL_1	+3V3 out	to video selection switches (see truth table)
C5	VIDEO_SEL_2	+3V3 out	to video selection switches (see truth table)
B4	SCL_2	+3V3 out	to I2C device OTC
A4	SDA_2	+3V3 out	to I2C device OTC
C6	SYNC	Input	Is 'high' if EPLD detects separate sync signals on YPbPr
B5	1_2FH	Input	Is 'high' if sync on YPbPr is 1fH (from EPLD)
D6	SYNC_SEL	+3V3 out	To sync selection switches
A5	FBX_MODE	Input	Is 'high' if E-box is detected

Table 9-4 Pixel Works Scaler: Video Select

VIDEO_SEL_1	VIDEO_SEL_2	Selected input for AD9887
0	0	RGB 2fh
0	1	YPbPr 2fh
1	0	VGA 1
1	1	VGA 2

Service remark: Desoldering/soldering of this IC requires very specialised (BGA) equipment. This can only be done by the Authorised Service Centres (ASC).

The EPLD

The main reason to add the EPLD is the contrast reserve function. Other reasons:

- **Black and white ADC adjustment.** The EPLD provides a high-resolution measurement of the black and white level, to adjust the gain and offset of the ADC (AD9887). It is read via I2C.
- **LVDS reset.** This function resets the LVDS transmitter on the SCAVIO board, in case the LVDS transmitter starts up without a clock. This could cause an abnormal picture. Therefore, as soon as the clock is not fast enough (as during start-up) the EPLD will keep the LVDS transmitter in reset.
- **Receiver-box mode detection.** For loop through mode (a second FTV monitor connected to the output of the first monitor), a secondary detection is needed to check the presence of an Receiver or E-box.
- **ATSC sync detection/ decoding.** Core for proper sync decoding for ATSC sources.
- **Contrast reserve.** This function can increase the gain of the video signal to a factor of two. It will reduce the gain again if it sees too many overflows (code 255) in any of the R, G, or B channels. Adjustable via two parameters: user contrast and overflow limit. Parameters are I2C controlled.

The LVDS transmitter

This DS90C385MTD56 IC from National Semiconductors converts 28 bits of CMOS/TTL data into four LVDS (Low Voltage Differential Signalling) data streams. A PLL transmit clock is transmitted in parallel with the data streams over a fifth LVDS link. Every cycle of the clock, 28 bits of input data are sampled and transmitted. At a transmit clock frequency of 36 MHz, 24 bits of RGB data and 3 bits of display control data are transmitted per LVDS data channel. This IC operates at 3.3 V

For more information, see *http://www.national.com/pf/DS/DS90C385.html#Datasheet*

Picture Mute

In some cases, it is necessary to mute the video output:

- In monitor mode:
  - During switch "on/off" of the monitor,
  - During source change,
  - During video or sync loss, or
  - By a user action (A/V-mute or mute)
  - In audio only mode (when the ICONN-box is connected).
- In TV mode:
  - During switch "on/off" of the Monitor/Receiver box,
  - During source change in the Receiver box,
  - During video or sync loss, or
  - In audio only mode (Receiver box mutes the picture).

Most of the picture mute controls are done via the Pixel Works co-processor.

Anti Ageing

In order to prevent visible luminance differences, due to ageing of the monitor, a special algorithm is implemented. This algorithm is based on horizontal shifting of the picture in the monitor. For good understanding some terms will now first be explained:

- **Ageing:** The effect that the efficiency of a plasma cell (pixel) decreases as a function of the total time that it is illuminated. This effect occurs mostly because of phosphor ageing. As a result, the cell brightness decreases over time. An alternative name for ageing is "burn-in".
- **Picture shifting:** Fixed structures, like logo's, OSDs, and subtitles, will cause burn-in effects. The only way to mask this to a certain extends, is picture shifting so that the "burn-in" effect is smeared out over a larger area, and makes it less visible.

Most of the anti-ageing controls are implemented in the Pixel Works co-processor.

Horizontal

Horizontal anti-ageing steps:

- **Step width/height,** the step width/height shall be 1 horizontal pixel width (approx. 1 mm).
- **Number of steps,** the maximum number of steps in horizontal direction shall be 9.
- **Time between steps,** the time between the steps shall be 5 minutes.

The effect of H anti-ageing is a horizontal movement (start at 0):

0 → 1 → 2 → 3 → 4
12 ← 11← 10 ← 9 ← 8 ← 7 ← 6 ← 5 ←
→ 13→ 14 → 15

With the following sequence:
0 → 1 → 2 → ...... → 14 → 15 → 0 → 1 → etc.

After every step, the updated value is stored in NVM and gives an indication about the direction (0...4 and 13...15 to the right and 5...12 to the left).

The horizontal anti-ageing is a process, which is basically independent of any other processes that are running in SW. This means that this process should never be reset in order to get the best anti-ageing effect. Therefore, the horizontal shift positions and directions need to be stored in NVM, so that he anti-ageing process returns to its latest position after the set has been switched off or to standby. There is only one H and one V shift value for the anti-ageing process that is applicable for the AV1, AV2, and AV3 inputs.

Note: Horizontal shift cannot be done for sources that are screen filling and do not have sufficient overscan.

Vertical

V-shift is done in the F21RE Receiver box when the TV mode is active, or in the *enhanced* configuration when the monitor mode is active.

Vertical anti-ageing steps:

- **Height/height,** the height/height shall be one display line (approximately 1 mm).
- **Number of steps,** the maximum number of steps in vertical direction shall be nine.
- **Time between steps,** the time between the steps shall be 80 minutes, which equals one complete horizontal ageing shift (16 steps x 5 minutes).

The effect of V anti-ageing is a vertical movement (start at 0):

4
↑ ↓
3 5
↑ ↓
2 6
↑ ↓
1 7
↑ ↓
0 8
↓
9 15
↓ ↑
10 14
↓ ↑
11 13
↓ ↑
12

With the following sequence:
0 → 1 → 2 → ...... → 14 → 15 → 0 → 1 → etc.

After every step, the vertical shift position and its direction are stored in NVM. So the anti-ageing process returns to its last position after the set has been switched off (or to standby). Also, if by any cause (i.e. VGA-source selection or when service/factory mode is active), the anti-ageing process is stopped; the vertical shift position should be restored after resuming the anti-ageing process.

9.4.3 Audio processing (Diagrams SC13, 14 and 15)

This chapter describes the audio **processing** on the SCAVIO board. The circuit enables to connect several audio sources, selects the source on the desired input, and performs audio processing and audio delay. It also matches the output signals for the Audio Amplifier panel.
The sound-related electronics are very straight forward, and consists of a Micronas MSP3415G sound processor, an active high pass, and low pass filter, and separate Class-D amplifiers for the woofers and tweeters.

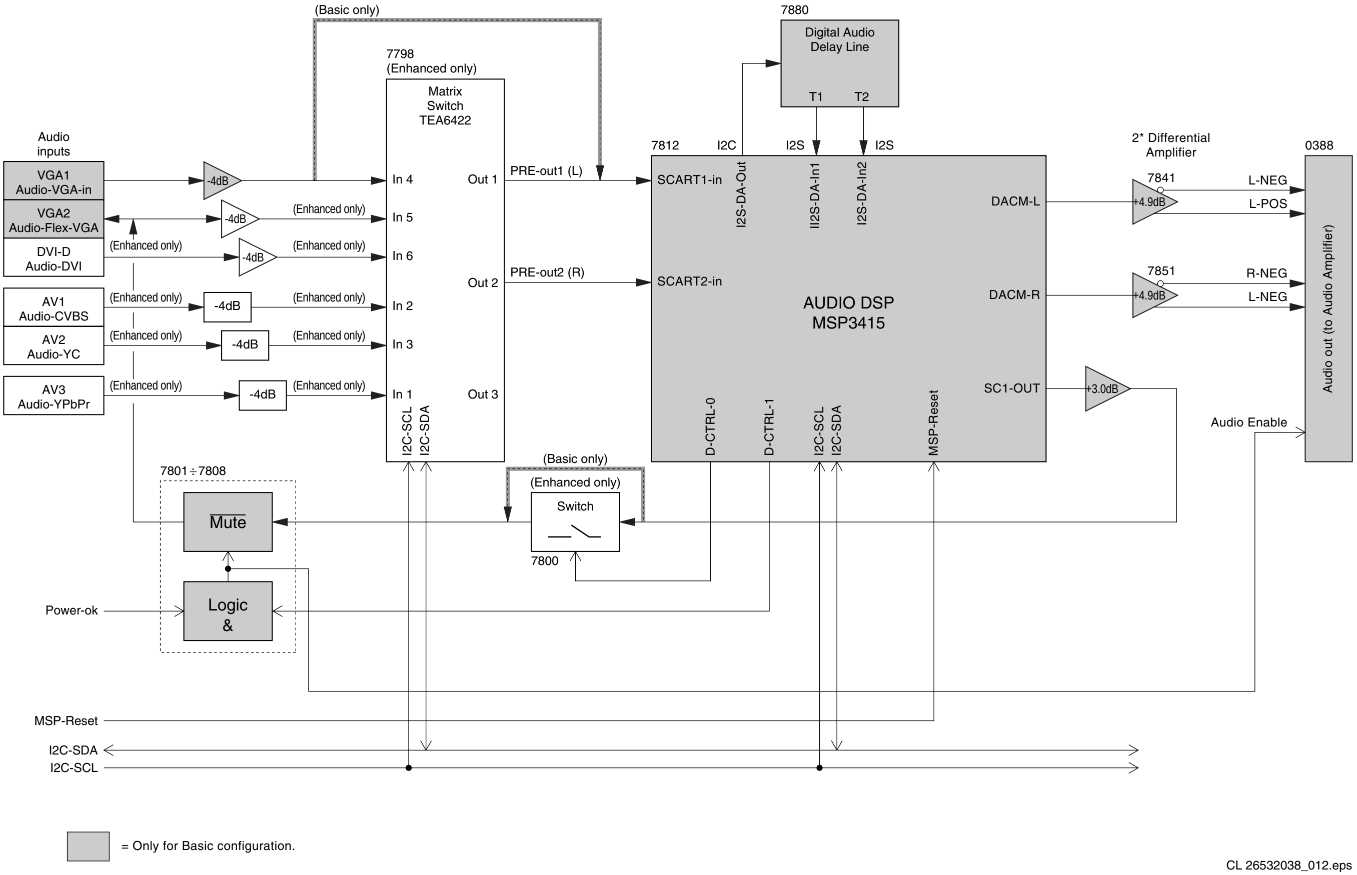
(Basic only)
7798
(Enhanced only)
Matrix Switch TEA6422
7880
Digital Audio Delay Line
T1
T2
Audio inputs
VGA1 Audio-VGA-in
VGA2 Audio-Flex-VGA
DVI-D Audio-DVI
AV1 Audio-CVBS
AV2 Audio-YC
AV3 Audio-YPbPr
-4dB
(Enhanced only)
In 4
In 5
In 6
In 2
In 3
In 1
Out 1
Out 2
Out 3
I2C-SCL
I2C-SDA
PRE-out1 (L)
PRE-out2 (R)
7812
I2C
I2S
I2S
SCART1-in
SCART2-in
I2S-DA-Out
I2S-DA-In1
I2S-DA-In2
AUDIO DSP MSP3415
DACM-L
DACM-R
SC1-OUT
D-CTRL-0
D-CTRL-1
I2C-SCL
I2C-SDA
MSP-Reset
2* Differential Amplifier
7841
+4.9dB
L-NEG
L-POS
7851
R-NEG
L-NEG
+3.0dB
0388
Audio out (to Audio Amplifier)
Audio Enable
(Basic only)
(Enhanced only)
Switch
7800
7801÷7808
Mute
Logic &
Power-ok
MSP-Reset
I2C-SDA
I2C-SCL
▨ = Only for Basic configuration.

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Figure 9-15 Audio Path

The processing part consists mainly of the following components:

- **MSP3415G**: a DSP sound processor from Micronas. This component is able to do all kinds of digital signal processing like volume, bass/treble, Ultra Bass, and balance. It has analogue inputs and outputs, as well as an I2S in/output used for digital audio delay.
- **RAM** with its logic to be able to store the I2S information for audio delay.
- **Anti-plop/ mute circuit:** which is necessary to prevent disturbances on the audio lines during start-up or switching.
- **TEA6422:** a matrix switch of ST. This component is able to switch six inputs to three different outputs (only used in the Enhanced version).

MSP3415G

Ultra Bass
Because of the closed box implementation in this FM-chassis, a common DBE solution will not give an optimal bass performance. A closed box needs a substantial boost over a wide frequency range, while DBE operates in a limited frequency region.
Adaptive Ultra Bass 2 (UB2) is a suitable alternative. This feature is based on the psycho-acoustic effect of the missing fundamental, and gives the impression of a deep bass, while the loudspeakers do not reproduce these low frequencies. This feature is implemented in the MSP3415G. In the FM-chassis, this feature is always switched "on".

Audio delay
To compensate for "lip sync error" (the difference in time between the aural and visual perceptions), two different audio delays are selectable via the customer's menu (one for the Receiver box and one for the Monitor).
This is done at the audio processor IC7812 via an I2S bus and an additional delay circuit (IC7880 - 7882).
One can select delays of 24 ms (I2S_DATA_IN1) and 40 ms (I2S_DATA_IN2), or no delay.
In case of a delay, the AUDIO_L/R_IN is re-routed as I2S_DATA_OUT to the audio delay circuit and, depending on the selected delay, returned as I2S_DATA_IN1 or I2S_DATA_IN2, resulting in AUDIO_L/R_OUT.

Anti-plop/Mute
In several cases, it is necessary to mute the sound output. This muting is handled by the MSP sound processor, or by the Receiver box in case of TV-mode.

- In Monitor mode:
  - During switch "on/off" of the monitor.
  - During source change.
  - During video or sync loss, or
  - By a user action (A/V-mute or mute).
- In TV mode:
  - During switch "on/off" of the Monitor/Receiver box.
  - During source change in the Receiver box.
  - During video or sync loss, or
  - By a user action (mute).

9.4.4 Control (Diagrams SC7, 8 and 9)

Introduction

As a main controller, the so-called ARTISTIC is used, better known as OTC (**O**n screen display, **T**eletext and **C**ontrol). It is a 8051 (XA) based controller from Philips Semiconductors, the SAA5801H.
Although the OTC is the main controller, it acts as a "slave" when communicating with the Pixel Works IC via the I2C-bus 2.

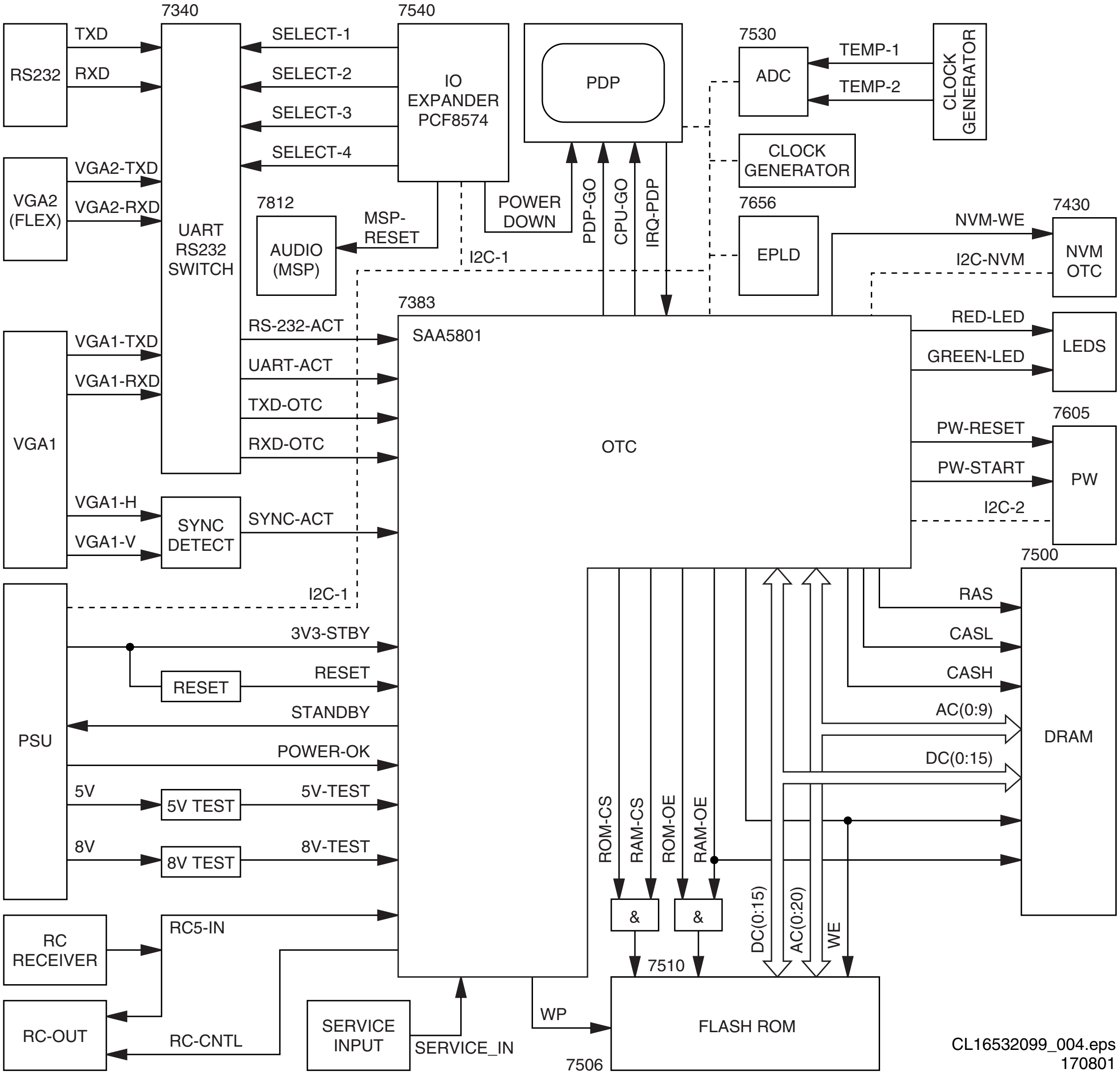
When the monitor is connected to an F21RE Receiver box, the UART commands from the Receiver box will control the monitor.

In stand-alone mode, the monitor can be controlled via the Remote Control or via the RS232C port.

DDC1/2B (Display Data Channel, an I2C based protocol) is implemented with separate NVMs for the two VGA inputs and the DVI-D input as well.

It is also possible to use the RS232C port for software upload to the PW Scaler and the OTC. The target for downloading is controlled via a switch in the RS232C path; the switch itself is controlled by the OTC.

OTC Processor


7340
7540
RS232
TXD
RXD
SELECT-1
SELECT-2
SELECT-3
SELECT-4
IO EXPANDER PCF8574
PDP
7530
ADC
TEMP-1
TEMP-2
CLOCK GENERATOR
CLOCK GENERATOR
VGA2 (FLEX)
VGA2-TXD
VGA2-RXD
UART RS232 SWITCH
7812
AUDIO (MSP)
MSP-RESET
POWER DOWN
PDP-GO
CPU-GO
IRQ-PDP
I2C-1
7656
EPLD
NVM-WE
7430
I2C-NVM
NVM OTC
7383
SAA5801
RED-LED
GREEN-LED
LEDS
RS-232-ACT
UART-ACT
TXD-OTC
RXD-OTC
VGA1
VGA1-TXD
VGA1-RXD
OTC
7605
PW-RESET
PW-START
PW
I2C-2
VGA1-H
VGA1-V
SYNC DETECT
SYNC-ACT
7500
I2C-1
RAS
CASL
CASH
AC(0:9)
DC(0:15)
DRAM
PSU
3V3-STBY
RESET
RESET
STANDBY
POWER-OK
5V
5V TEST
5V-TEST
8V
8V TEST
8V-TEST
ROM-CS
RAM-CS
ROM-OE
RAM-OE
&
&
DC(0:15)
AC(0:20)
WE
7510
RC RECEIVER
RC5-IN
RC-OUT
RC-CNTL
SERVICE INPUT
SERVICE_IN
WP
FLASH ROM
7506
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170801

Figure 9-16 Control Part

This part describes the Main Control part of the SCAVIO panel and the interfaces with the software. The control function consists of the following tasks:

- Control of external IOs, like fan speed, temperature, service and RC5,
- UART communication with Receiver box,
- RS232 control / communication,
- Supports the uploading of new SW into the Flash-ROMs,
- Start-up of monitor and initialisation via I2C,
- Error detection and storing.

Start-up and Shut-down

The POR signal is not generated on the PSU, but on the SCAVIO board. This is done with a fully integrated ADM810T POR chip (item 7517), which senses the 3.3 V coming from the PSU. The sense level is 3.08 V. During power-up as well as power-down, this chip will make the RESET signal high. During power-up, this signal will be held "high" until 240 ms after V_cc has become stable.
During power-down, the system will be reset as soon as the V_cc drops below 3.08 V.

Start-up from Standby

When the monitor is in standby mode, it can wake-up in several ways:

- When an RC command is received (RC_IN).
- Detection of H- and/or V-sync on VGA1.
- Detection of UART communication on VGA1.
- Detection of RS232 communication.
- Detection of Service modes.

RC Command Reception

When a RC command is received at the RC receiver on the LED panel, it will go directly to the RC input of the OTC (RC_IN on pin 100). If the monitor is in standby, and a proper RC command is send, it will wake up.
The RC commands are routed to the Receiver box via the VGA1 connector pin 9 (RC_VGA1), but this loop through connection is controlled by RC_CNTL. Below is the truth table.

Table 9-5 RC Commands overview

FTV2.1E-box	FTV Monitor	RC commands	RC_CNTL
In Standby	In Standby	Send to E-box	Low
In Standby	On	Blocked	High
On	In Standby	Send to E-box	Low
On	On	Send to E-box	Low

Note: All RC commands are direct available on a separate RC-out cinch connector (RC_OUT) on the VGA connector panel.

H- and/or V-sync Detection

When both H and V sync signals are present on VGA1, there is a pulse (low) on SYNC_ACT. When only H is present, SYNC_ACT is continuously low. The SW disables the interrupt, once an interrupt is received.

UART Communication Detection

When there is UART communication on VGA1, the UART detection circuitry generates on every falling edge a pulse on UART_ACT. This is a negative going pulse with a width of ± 470 us. The first pulse will trigger the main software to check for the FTV System Protocol (FSP). The SW disables the interrupt, once an interrupt is received.

RS232 Communication Detection

When an RS232 connection is made, and communication is started (pulses on RS232_RXD), RS232_ACT becomes "high". Via a transistor, RS232_ACT will make SERVICE_IN low. When the Monitor is operating (+5 V available), this signal is made low (in fact it is disabled).

Service Mode Detection

It is possible to enter four different Service Modes (provided the OTC is still supplied by the +3V3_STBY).
Via the SERVICE_IN signal, which is an ADC input of the OTC, a voltage drop is detected from +3.3 V to V_x.
V_x is a DC voltage, which represents the mode to be entered:

Table 9-6 Service Mode levels

Service mode	Limits Vx [V]	Vx [V]	Remarks
SDM	3.0 > Vx > 2.4	± 2.6	0382-2 to GND
SAM	2.4 > Vx > 1.8	± 2.0	0382-4 to GND
COMPAIR	1.8 > Vx > 1.2	± 1.4	0382-6 to GND
RS232 active	Vx < 0.8	>0.8	Plug in RS232, start program

I2C

There are five I2C busses used in the monitor (see also "I2C Overview" in chapter 6):

- I2C bus 1 is a (5 V) device bus, controlled by the OTC, and connected to the following devices:
  - PDP.
  - EPLD.
  - IO expander SCAVIO - PCF8574A.
  - IO expander PSU - PCF8574A.
  - ADC - PCF8591.
  - Clock generator for PW - FS6377.
  - Sound processor MSP3415G.
  - Audio switch TEA6422 (*Enhanced* version only).
- I2C bus 2 is used for communication with the Pixel Works co-processor (PW). Although the OTC is the main controller, it will act in this case as a "slave", since the PW can only act as a "master". Before any I2C commands are exchanged, the PW gets an interrupt (PW_START) to indicate that the OTC wants to talk to the PW.
- I2C bus 3 is a (3.3 V) device bus, controlled by the PW, and connected to the following devices:
  - Video Decoder SAA7118 (*Enhanced* version only).
  - De-interlacer SDA9400 (*Enhanced* version only).
  - ADC/TMDS receiver AD9887.
  - 3D Comb filter MN8783LSI (optional).
- I2C bus 4 is a (3.3 V) bus between the OTC its NVM (to avoid data corruption).
- I2C bus 5 is a (3.3 V) bus between the PW and its NVM (to avoid data corruption).

Notes:

- The PDP and EPLD are in fact 3.3 V bus devices, but they need to be connected to bus 1, since the OTC is the first controller to be fully operating at start-up. For this reason, an I2C level shifter (items 7675/76 on diagram SC12) is included, which converts the 5 V signals into 3V3 and visa versa.
- One of the first commands is to set the clock generator (item 7570), else the PW can not start-up.

RS232/UART

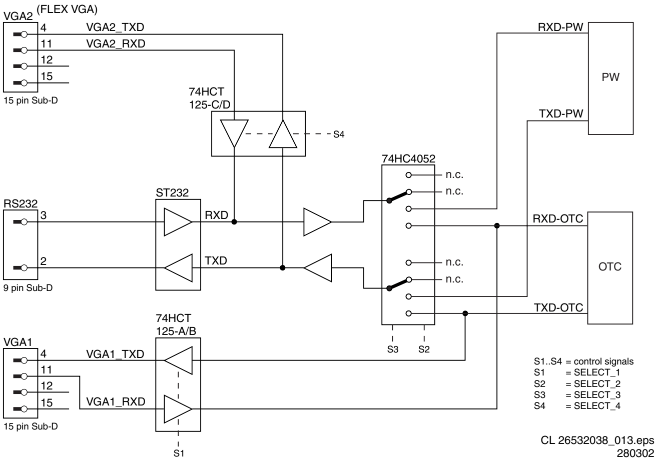

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Figure 9-17 RS232/UART

The FM23 monitor is equipped with an RS232 interface. Via a nine pin Sub-D connector, it is possible to connect a PC for special modes like:

- SW download.
- Factory purposes.
- Service.
- Professional use.

A second option is the connection of a so-called ICONN-box for Institutional TV (Hotel TV).

For communication with the Receiver Box, the UART protocol is used, because this can handle longer cable distances than I2C. The (Receiver box) UART is interfaced via a 15 pin Sub-D connector (VGA connector). Via this UART connection, the F21RE Receiver box and the FM23 Monitor can communicate (via FSP). By doing so, the monitor will know that there is an

Receiver box connected and thus it is operating as a TV configuration.

RS232/UART Control

The OTC (SELECT_1 to _4) controls the RS232/UART switches. When the monitor is in Receiver box mode, there is no RS232 communication possible. The monitor is default set in Receiver box mode (switch to n.c. position) and the UART from/to VGA1 is enabled, to allow communication with Receiver box.

If no Receiver box is detected, the UART is disabled to ensure that there will be no communication towards the OTC, and the switch is set to OTC. Below the truth table of the switches is shown, which determine the TXD/RXD path.

Table 9-7 RS232/UART Control

S1= SELECT_1 (P0)	S2 = SELECT_1 (P1)	S3 = SELECT_1 (P3) (3)	S4 = SELECT_4 (P4) (4)		UART VGA1 (E-box)	UART VGA2 (flex)	RS232 set to OTC (1)	RS232 set to PW (2)
0	0	0	0		0	0	0	0
0	0	0	1		0	0	0	0
0	0	1	0		0	0	0	0
0	0	1	1		1	0	0	0
0	1	0	0		0	0	0	0
0	1	0	1		0	0	0	0
0	1	1	0		0	0	0	0
0	1	1	1		1	0	0	0
1	0	0	0		0	0	0	0
1	0	0	1		0	0	1	0
1	0	1	0		0	1	0	0
1	0	1	1		0	0	0	0
1	1	0	0		0	0	0	0
1	1	0	1		0	0	0	1
1	1	1	0		0	1	0	0
1	1	1	1		0	0	0	0

(1) Software download or ComPair mode.
(2) Software download or Debug mode.
(3) When S3 = 1 the 74HCT4052 is in a tri-state ("off" state).
(4) When S4 = 0 the TXD out of RS232 is disabled (S4 may not become low in any other case).

UART Detection

When the VGA1_RXD line is continuously "low", the OTC might run slow due the fact that so-called "break" signals are generated. To prevent this, a small circuitry is added to detect whether VGA1_RXD is continuously "low" (item 7310).

When the VGA1_RXD line is "low" for about 20 ms, the buffer-switch (item 7303-A) is opened. After this buffer, a second discrete buffer is placed (items 7315/16), which keeps the RXD_OTC line "high" and changes the 5 V into a 3.3 V level.

ICONN-box

For application of a Flat TV in a hotel environment, the monitor is designed to operate with a so-called ICONN-Box. The ICONN-box will take over the user control of the monitor, by intercepting the RC5-commands coming from a dedicated RC-transmitter, which sends specific hotel-mode commands and sending its own RC-commands to the microprocessor in the monitor.

So in the ICONN-Box, the hotel-mode commands will be converted to RC5-commands, which than can be interpreted by the monitor.

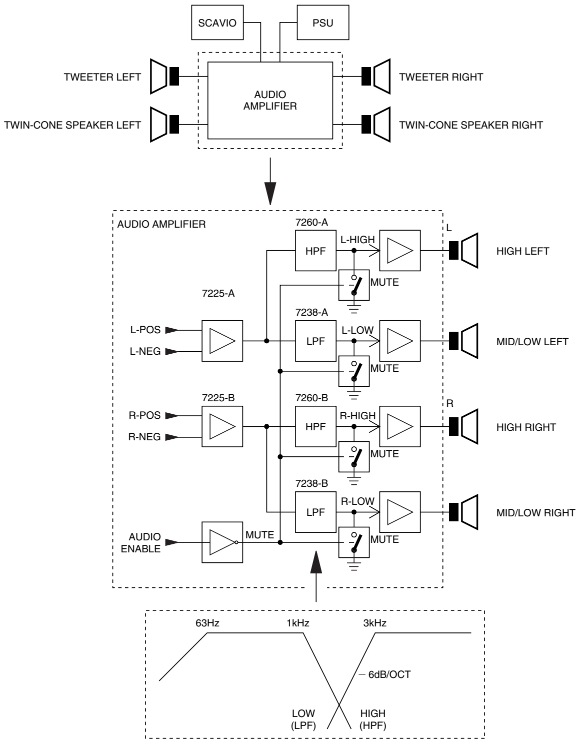
When connected to the RS232 input, this box takes over the control of the IR-receiver in the monitor. It is also able to control the front LED. The switches (7550 for the IR and 7555 for the LED signals) are controlled by the ICONN_NOT signal.

The ICONN-Box shall interface the Monitor with the following signals:

- **IR-RX.** These are the RC5-commands coming from the specific hotel RC5 - transmitter, which are received via the RC5-receiver of the monitor.
- **IR_TX.** These are the RC5-commands generated by the ICONN-Box and send to the monitor.
- **RL_ICN.** Control signal from the microprocessor (of the monitor), indicating the power state of the monitor. The ICONN-Box and monitor LED are driven in parallel.
- **GL_ICN.** Control signal from the microprocessor (of the monitor), indicating the functionality of the monitor, to drive the LED on the ICONN-Box.
- **LD_ICN.** Control signal from the ICONN-Box to drive the green LED on the monitor.

9.5 Audio Amplifier Panel (Diagram A)

9.5.1 Introduction



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040402

Figure 9-18 Block diagram Audio Amplifier

This panel houses the audio filters and amplifiers necessary for driving the speakers. The differential audio inputs (for common mode immunity) come from the SCAVIO panel (via connector 0388).

The PSU delivers the positive and negative supply voltage of 14.5 V_dc, as well as the +9V_STBY voltage.

After being filtered and amplified, the signals go to the speaker section, where the (twin cone) low/mid range speakers and the tweeters are driven (load impedance is 8 Ω). Shielding of these speaker magnets is not needed for a plasma screen.

Because of the limited space (no room for a bass reflex pipe), the closed box" principle has been chosen. This, in combination with the "Adaptive Ultra Bass 2", results in an acceptable bass performance.

In order to guarantee this good bass performance, the closed box has to be airtight. This is achieved by a closely fitting foam ring between the front and back part of the cabinet.

9.5.2 Supply (Diagram A7)

The supply voltage is a symmetrical voltage of +/- 14.5 V_dc, generated by the main supply via L5002.

- V_SND_POS on connector 0302 pin 5/6, and
- V_SND_NEG on connector 0302 pin 1/2.

9.5.3 Filter (Diagram A2)

Electrical filtering is needed for following reasons:

- Limiting the cone excursion, thereby reducing the distortion.
- Increasing the power handling capacity (PHC).

In this amplifier panel, active second order Sallen-Key filters are used, with crossover frequencies of 1 kHz for the low pass filter, and 3 kHz for the high pass filter.

The audio signals are filtered **before** the amplifier. There are some reasons for doing this:

- It is now easy to do active filtering, and
- At less costs (no expensive coils and capacitors).

Low Pass Filter (LPF)

For L and R separately, a Low Pass Filter (IC7238A and B) is processing L_LOW and R_LOW.

The output signal of this filter is then fed to the audio amplifier (identical for right channel).

High Pass Filter (HPF)

For L and R separately, a High Pass Filter (IC7260A and B) is processing L_HIGH and R_HIGH.

The output signal of this filter is then fed to the audio amplifier (identical for right channel).

9.5.4 Amplifier (Diagrams A3 to A6)

Each speaker has its own 15 W class-D amplifier. These so-called SODA (**S**elf **O**scillating class-**D** **A**mplifier) amplifiers combine a good performance with a high efficiency, resulting in a big reduction in heat generation.

Principle

Audio-power-amplifier systems have traditionally used linear amplifiers, which are well known for being inefficient. In fact, a linear Class AB amplifier is designed to act as a variable resistor network between the power supply and the load. The transistors operate in their linear region, and the voltage that is dropped across the transistors (in their role as variable resistors) is lost as heat, particularly in the output transistors. Class D amplifiers were developed as a way to increase the efficiency of audio-power-amplifier systems.

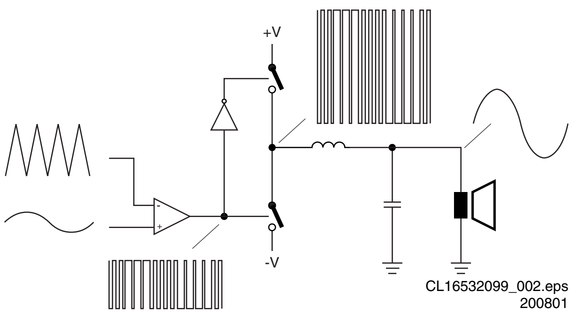

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Figure 9-19 Principle Class-D Amplifier

The Class D amplifier works by varying the duty cycle of a Pulse Width Modulated (PWM) signal.

By comparing the input voltage to a triangle wave, the amplifier increases duty cycle to increase output voltage, and decreases duty cycle to decrease output voltage.

The output transistors (item 7365 on diagram A3) of a Class D amplifier switch from "full off" to "full on" (saturated) and then back again, spending very little time in the linear region in between. Therefore, very little power is lost to heat. If the transistors have a low "on" resistance (R_DS(ON)), little voltage is dropped across them, further reducing losses.

A Low Pass Filter at the output passes only the average of the output wave, which is an amplified version of the input signal. In order to keep the distortion low, negative feedback is applied (via R3308). A second feedback loop (via R3310) is tapped after the output filter, in order to decrease the distortion at high frequencies.

The **advantage** of Class D is increased efficiency (= less heat dissipation). Class D amplifiers can drive the same output power as a Class AB amplifier using less supply current.

The **disadvantag**e is the large output filter that drives up cost and size. The main reason for this filter is that the switching waveform results in maximum current flow. This causes more loss in the load, which causes lower efficiency. An LC filter with a cut-off frequency less than the Class D switching frequency (350 kHz), allows the switching current to flow through the filter instead of the load. The filter is less lossy than the speaker, which causes less power dissipated at high output power and increases efficiency in most cases.

9.5.5 Mute (Diagram A2 to A6)

A mute switch (item 7302) is provided at the PWM inputs (item 7315, LM311). This switch is controlled by the AUDIO_ENABLE line, which checks the availability of the +9V_STBY voltage.

9.5.6 Protections

Short-circuit Protection (Diagram A3)

A protection is made against a too high temperature of transistor 7355 in case of a short-circuit of output FET 7365-1. Transistor 7340 is sensing the current through transistor 7355 via R3355, and activates the DC-protection line (see figure "DC protection") in case the current becomes too high. This is the same for all four amplifier parts.

DC-protection (Diagram A7)

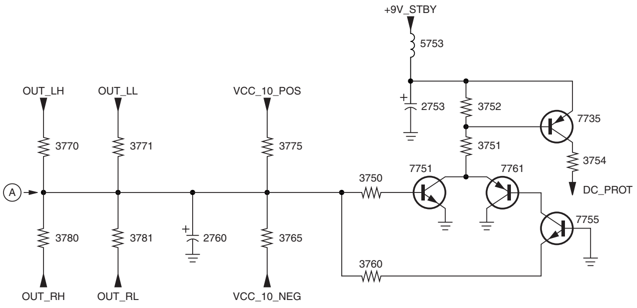

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Figure 9-20 DC Protection

Because of the symmetrical supply, a DC-blocking capacitor, between the amplifier and the speaker, is not necessary. However, it is still necessary to protect the speaker for DC voltages.

The following protections are therefore implemented:

- Via R3765 and R3775, each stabilised supply voltage line (via items 7735 and 7745) is checked on deviations.
- Via R3770/3771/3780/3781, each amplifier output is checked for DC-voltage.

Via R3765/3775, a virtual earth is imposed on point A. When one of the supply voltages deviates, a DC voltage will occur on this point. If point A is positive, T7751 will conduct. If it is negative, T7761 will conduct.
Both cases will make T7735 conduct, so that the DC-PROT signal will be made high. This ensures that the power supply is rapidly trimmed back.
Capacitor C2760 will ensure that only DC-signals at point A will activate the protection.

9.6 LED/Switch Panel (Diagram LD)

This panel contains:

- The red and green status LEDs,
- The RC input receiver,
- The light sensor, and
- The "on/off" switch.

All signals on this panel come directly from the SCAVIO panel:

- The LED and sensor signals (RED_LED, GREEN_LED and LIGHT_SEN_IN) are routed to the OTC. When a F21RE Receiver box is connected, the sensor signal is routed to the OTC of this box (via UART), where it will control the HOP via I2C.
- The RC signal (RC_IN) is routed to the OTC, the VGA1 connector, and the RC-out cinch connector.
- The signals to (+9V_STBY) and from (+9V_STBY_SW) the "on/off" switch are routed to the PSU board.

9.7 Plasma Display Panel (PDP)

9.7.1 General

The PDP, which is used in this chassis, is a product of Fujitsu Hitachi Plasma Display Ltd (FHP). When defect, a new panel must be ordered, and after receipt, the defective panel must be send for repair in the packing (flight case) of the new ordered panel.

9.7.2 Operation

Principle
Plasma displays work by applying a voltage between two transparent display electrodes on the front glass plate of the display. The electrodes are separated by an MgO dielectric layer and surrounded by a mixture of neon and xenon gases. When the voltage reaches the "firing level", a plasma discharge occurs on the surface of the dielectric, resulting in the emission of ultra violet light.
This UV light then excites the phosphor material at the back of the cell and emits visible light. Each cell or sub-pixel has red, blue or green phosphor material and three sub-pixels combine to make up a pixel. The intensity of each colour is controlled by varying the number and width of voltage pulses applied to the sub-pixel during a picture frame. This is implemented by dividing each picture frame into sub-frames. During a sub-frame, all cells are first addressed - those to be lit are pre-charged to a specific address voltage - then during the display time the display voltage is applied to the entire screen lighting those that were addressed.
Each sub-frame has a weighting ranging from 1 time unit to 128 time units for a typical eight sub-frame arrangement (Time Unit depends on size and number of pixels on the screen). This is a purely digital PWM control mechanism, which is a key advantage as it eliminates any unnecessary digital to analogue conversions, making the PDP technology ideal for the all-digital age.

Achieving High Resolution
While conventional technology, as found in standard VGA resolution screens, uses 2 display electrodes for each horizontal line, applying the same method to achieve higher resolution (>1000 horizontal lines) brings inherent problems. Firstly, the number of electrodes would need to be doubled which would require very high precision production processes. Secondly, the cell aperture ratio would reduce resulting in lower brightness. In addition, either the driving scheme would have to operate with double the speed, again introducing significantly higher cost, or a dual-scan technique would have to be introduced. With dual-scan, twice as many driving ICs would be required. In summary, implementing high resolution with conventional technology would result in lower brightness and increased costs.

ALiS Technology
To achieve high brightness as well as cost-effectiveness, FHP developed ALiS (Alternate Lighting of Surfaces) Technology. ALiS is based on 3 principles:

- Odd and Even lines are displayed separately
- The non-lighting area between the cells is utilised
- The number of electrodes = the number of horizontal display lines + 1

Despite the smaller cell size, the aperture ratio can be increased from 40% to 65% meaning that the screen is inherently brighter. Another spin-off benefit is that the lighting duty is reduced to 50% (odd fields and even fields lit for half of each frame) meaning that a significantly improved phosphor lifetime can be expected.

For more information, see *http://www.fme.fujitsu.com/products/displays/pdp.html*

9.8 Abbreviation List

ADC	Analogue to Digital Converter
ALiS	Alternate Lighting of Surfaces, new plasma display technology
AM	Amplitude Modulation
AP	Asia Pacific
AV	External Audio Video
B/G	Monochrome TV system. Sound carrier distance is 5.5 MHz
BGA	Ball Grid Array
BTSC	Broadcast Television Standard Committee. Multiplex FM stereo sound system, originating from the USA and used e.g. in LATAM and AP-NTSC countries
ComPair	Computer aided rePair
CVBS	Composite Video Blanking and Synchronisation
DAC	Digital to Analogue Converter
DDC	Display Data Channel (a protocol based on I2C)
D/K	Monochrome TV system. Sound carrier distance is 6.5 MHz
DFU	Direction For Use: description for the end user
DNR	Dynamic Noise Reduction
DRAM	Dynamic RAM
DSP	Digital Signal Processing
DTS	Digital Theatre Sound
DVD	Digital Versatile Disc
DVI-d	Digital Visual Interface, d = digital only
EEPROM	Electrically Erasable and Programmable Read Only Memory
EMI	Electro Magnetic Interference
EPLD	Erasable Programmable Logic Device
EU	Europe
EXT	External (source), entering the set via SCART or Cinch
FLASH	Flash memory
FM	Frequency Modulation
FSP	FTV System Protocol
FTV	Flat TeleVision
HP	Headphone
I	Monochrome TV system. Sound carrier distance is 6.0 MHz
I2C	Integrated IC bus
I2S	Integrated IC Sound bus
ICONN	Institutional CONNector
IF	Intermediate Frequency
Interlaced	Scan mode where two fields are used to form one frame. Each field contains half the number of the total amount of lines. The fields are written in "pairs", causing line flicker.
IR	Infra Red
IRQ	Interrupt Request
LATAM	Latin America
LED	Light Emitting Diode
L/L'	Monochrome TV system. Sound carrier distance is 6.5 MHz. L' is Band I, L is all bands except for Band I
LS	Loudspeaker
LVDS	Low Voltage Differential Signalling
M/N	Monochrome TV system. Sound carrier distance is 4.5 MHz
MOSFET	Metal Oxide Silicon Field Effect Transistor, switching device
MPEG	Motion Pictures Experts Group
NC	Not Connected
NICAM	Near Instantaneous Compounded Audio Multiplexing. This is a digital sound system, mainly used in Europe.
NTC	Negative Temperature Coefficient, non-linear resistor
NTSC	National Television Standard Committee. Colour system mainly used in North America and Japan. Colour carrier NTSC M/N = 3.579545 MHz, NTSC 4.43 = 4.433619 MHz (this is a VCR norm, it is not transmitted off-air)
NVM	Non Volatile Memory: IC containing TV related data e.g. alignments
OC	Open Circuit
OSD	On Screen Display
OTC	On screen display, Teletext and Control
P50	Project 50 or Easy Link
PAL	Phase Alternating Line. Colour system mainly used in West Europe (colour carrier = 4.433619 MHz) and South America (colour carrier PAL M = 3.575612 MHz and PAL N = 3.582056 MHz)
PCB	Printed Circuit Board
PCM	Pulse Code Modulation
PDP	Plasma Display Panel
PFC	Power Factor Corrector (or Pre-conditioner)
PIP	Picture In Picture
PLL	Phase Locked Loop. Used for e.g. FST tuning systems. The customer can give directly the desired frequency
POR	Power On Reset, signal to reset the P
Progressive Scan	Scan mode, where all scan lines are displayed in one frame at the same time, creating a double vertical resolution.
PTC	Positive Temperature Coefficient, non linear resistor
PW	Pixel Works (manufacturer) video scaling co-processor
PWM	Pulse Width Modulation
RAM	Random Access Memory
RC	Remote Control handset
RC5	Remote Control system 5, signal from the remote control receiver
RGB	Red Green Blue
ROM	Read Only Memory
SCART	Syndicat des Constructeurs d'Appareils Radiorecepteurs et Televisieurs
SCAVIO	Scaler Control Audio Video Input and Output
SCL	Serial Clock I2C
SDA	Serial Data I2C
SDRAM	Synchronous DRAM
SECAM	SEequence Couleur Avec Memoire. Colour system mainly used in France and East Europe. Colour carriers = 4.406250 MHz and 4.250000 MHz
SMPS	Switched Mode Power Supply
SOG	Sync On Green
SOPS	Self Oscillating Power Supply
S/PDIF	Sony Philips Digital InterFace
SRAM	Static RAM
STBY	Standby
SVHS	Super Video Home System
SW	Software
SXGA	1280x1024
THD	Total Harmonic Distortion
TMDS	Transition Minimised Differential Signalling
TXT	Teletext
UART	Universal Asynchronous Receiver Transmitter, 2-wire bus which can handle longer cables than I2C.

P	Microprocessor
VCR	Video Cassette Recorder
V_a	Addressing voltage for the plasma display
V_ra	Setting voltage for V_a
V_rs	Setting voltage for V_s
V_s	Sustain voltage for the plasma display
Y/C	Luminance (Y) and Chrominance (C) signal
YUV	Component video
0/6/12	SCART switch control signal on A/V board. 0 = loop through (AUX to TV), 6 = play 16:9 format, 12 = play 4:3 format

9.9 IC Data

In this paragraph, the internal block diagrams and pinning are given of ICs that are drawn as a "black box" in the electrical diagrams (with exception of "memory" and "logic" ICs).

9.9.1 Diagram P2, TNY256 (IC7500)

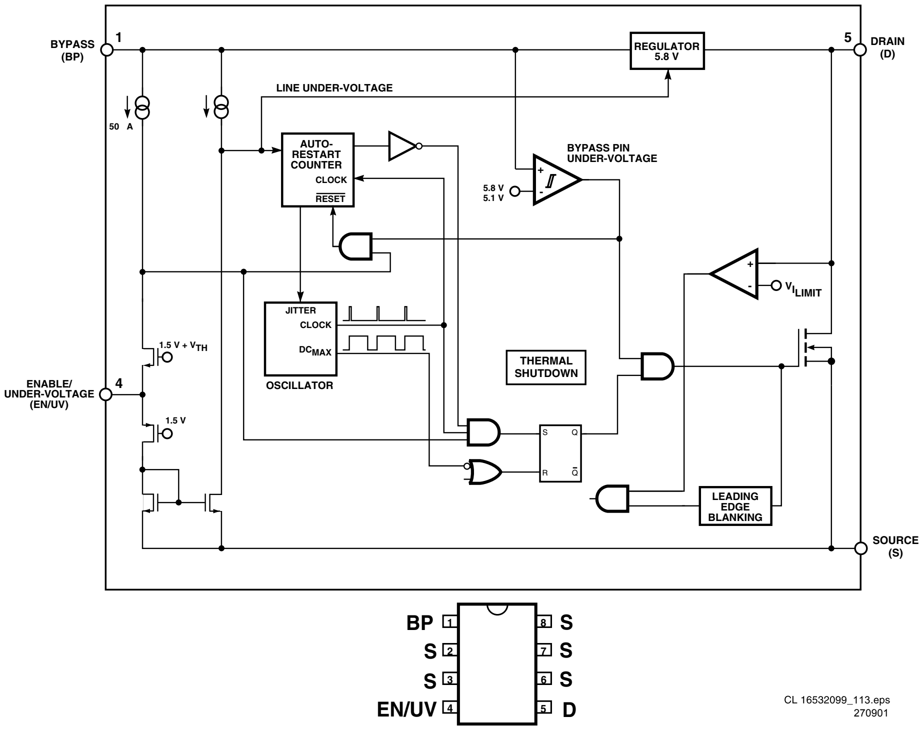
BYPASS (BP)
1
5
DRAIN (D)
REGULATOR 5.8 V
LINE UNDER-VOLTAGE
50 A
AUTO-RESTART COUNTER
CLOCK
RESET
BYPASS PIN UNDER-VOLTAGE
5.8 V
5.1 V
$V_{I_{LIMIT}}$
JITTER
CLOCK
DC_{MAX}
OSCILLATOR
1.5 V + V_{TH}
ENABLE/ UNDER-VOLTAGE (EN/UV)
4
1.5 V
THERMAL SHUTDOWN
S
Q
R
$\bar{Q}$
LEADING EDGE BLANKING
SOURCE (S)
BP 1
S 2
S 3
EN/UV 4
8 S
7 S
6 S
5 D

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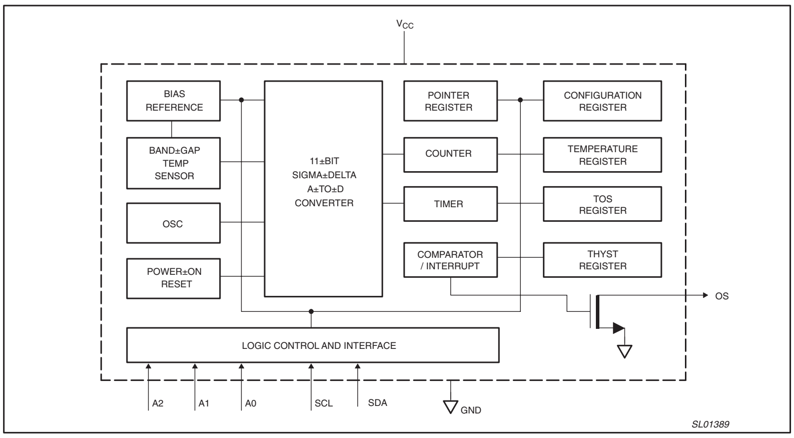
Figure 9-21 Internal block diagram and pinning

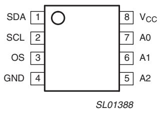
9.9.2 Diagram P3, LM75A (IC7372)

SIMPLIFIED BLOCK DIAGRAM


V_{CC}
BIAS REFERENCE
BAND±GAP TEMP SENSOR
OSC
POWER±ON RESET
11±BIT SIGMA±DELTA A±TO±D CONVERTER
POINTER REGISTER
COUNTER
TIMER
COMPARATOR / INTERRUPT
CONFIGURATION REGISTER
TEMPERATURE REGISTER
TOS REGISTER
THYST REGISTER
OS
LOGIC CONTROL AND INTERFACE
A2
A1
A0
SCL
SDA
GND
SL01389

PINNING

Pin configuration


SDA 1
SCL 2
OS 3
GND 4
8 V_{CC}
7 A0
6 A1
5 A2
SL01388

Pin description

PIN	SYMBOL	DESCRIPTION
1	SDA	Digital I/O. I^2C serial bi-directional data line. Open Drain.
2	SCL	Digital input. I^2C serial clock input.
3	OS	Overtemp Shutdown output. Open Drain.
4	GND	Ground. To be connected to the system ground.
5	A2	Digital input. User-defined address bit2.
6	A1	Digital input. User-defined address bit1.
7	A0	Digital input. User-defined address bit0.
8	V_{CC}	Power supply.

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030703

Figure 9-22 Internal block diagram and pinning

9.9.3 Diagram P5, MC33368 (IC7650)

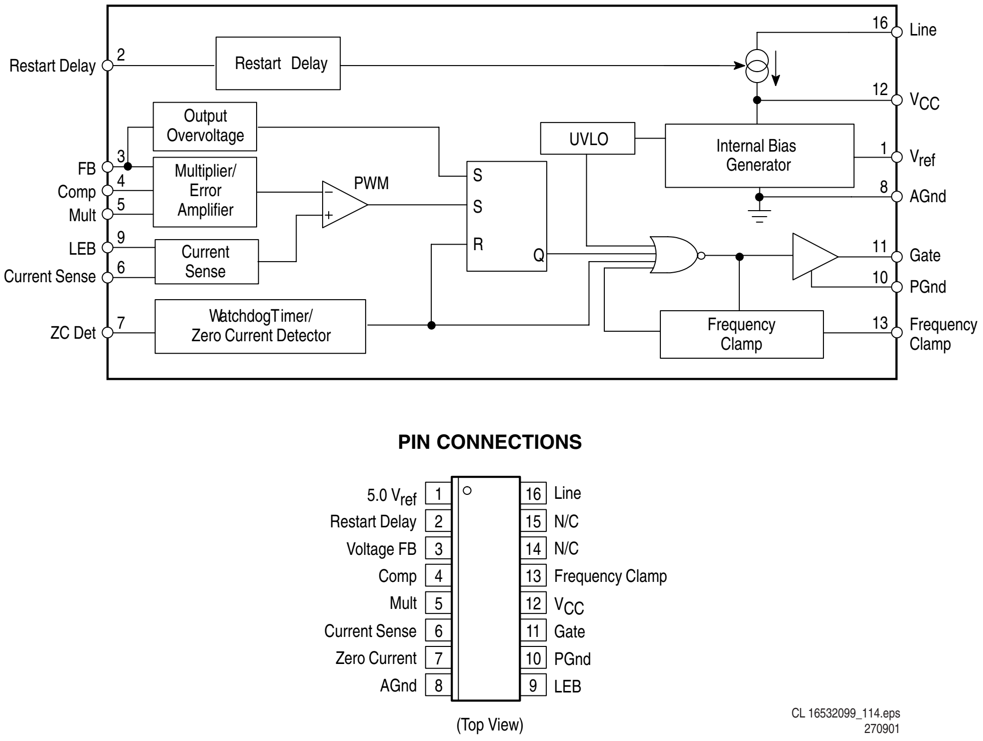

16 Line
Restart Delay 2
Restart Delay
12 VCC
Output Overvoltage
UVLO
Internal Bias Generator
1 Vref
FB 3
Comp 4
Mult 5
Multiplier/ Error Amplifier
PWM
S
S
R
Q
8 AGnd
LEB 9
Current Sense 6
Current Sense
11 Gate
10 PGnd
ZC Det 7
WatchdogTimer/ Zero Current Detector
Frequency Clamp
13 Frequency Clamp
PIN CONNECTIONS
5.0 Vref 1
Restart Delay 2
Voltage FB 3
Comp 4
Mult 5
Current Sense 6
Zero Current 7
AGnd 8
16 Line
15 N/C
14 N/C
13 Frequency Clamp
12 VCC
11 Gate
10 PGnd
9 LEB
(Top View)
CL 16532099_114.eps
270901

Figure 9-23 Internal block diagram and pinning

9.9.4 Diagram P7, TEA1507 (IC7112 and IC7212)

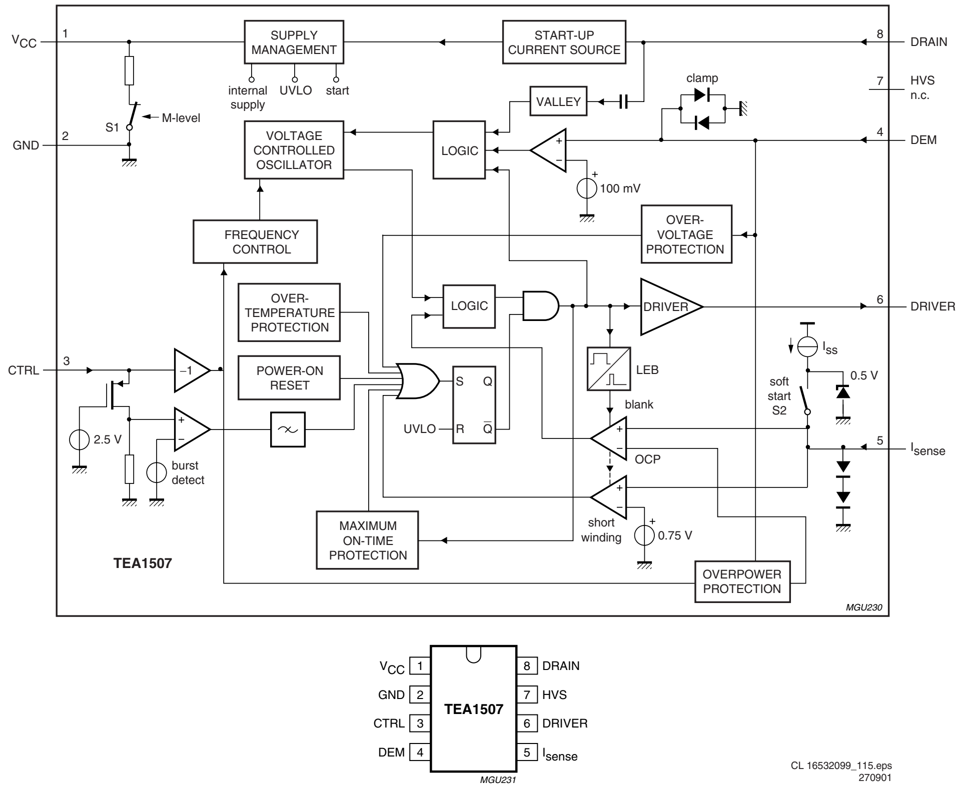
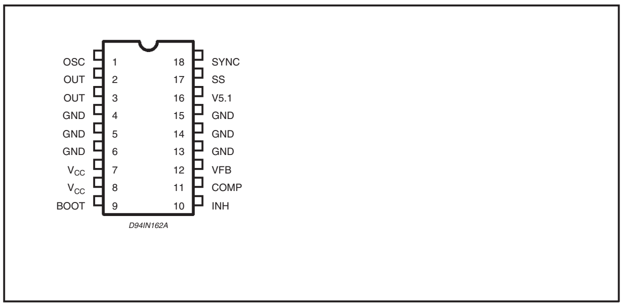
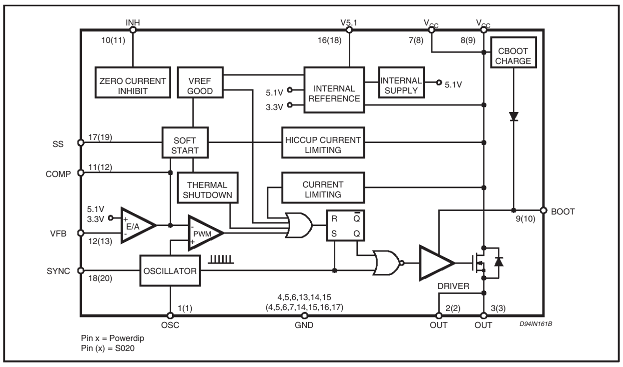

VCC 1
GND 2
CTRL 3
SUPPLY MANAGEMENT
START-UP CURRENT SOURCE
8 DRAIN
7 HVS n.c.
4 DEM
6 DRIVER
5 Isense
internal supply
UVLO
start
S1
M-level
VALLEY
clamp
VOLTAGE CONTROLLED OSCILLATOR
LOGIC
100 mV
FREQUENCY CONTROL
OVER-VOLTAGE PROTECTION
OVER-TEMPERATURE PROTECTION
LOGIC
DRIVER
POWER-ON RESET
−1
S
Q
R
Q̄
UVLO
LEB
blank
Iss
0.5 V
soft start S2
2.5 V
burst detect
OCP
short winding
0.75 V
MAXIMUM ON-TIME PROTECTION
TEA1507
OVERPOWER PROTECTION
MGU230
VCC 1
GND 2
CTRL 3
DEM 4
TEA1507
8 DRAIN
7 HVS
6 DRIVER
5 Isense
MGU231
CL 16532099_115.eps
270901

Figure 9-24 Internal Block Diagram and pinning TEA1507

9.9.5 Diagram P7, L4973V (IC7260)


OSC 1
OUT 2
OUT 3
GND 4
GND 5
GND 6
V_{CC} 7
V_{CC} 8
BOOT 9
18 SYNC
17 SS
16 V5.1
15 GND
14 GND
13 GND
12 VFB
11 COMP
10 INH
D94IN162A

BLOCK DIAGRAM


INH
10(11)
V5.1
16(18)
V_{CC}
7(8)
V_{CC}
8(9)
CBOOT CHARGE
ZERO CURRENT INHIBIT
VREF GOOD
5.1V
3.3V
INTERNAL REFERENCE
INTERNAL SUPPLY
5.1V
SS
17(19)
SOFT START
HICCUP CURRENT LIMITING
COMP
11(12)
THERMAL SHUTDOWN
CURRENT LIMITING
BOOT
9(10)
5.1V
3.3V
E/A
PWM
R Q
S Q
VFB
12(13)
SYNC
18(20)
OSCILLATOR
DRIVER
4,5,6,13,14,15
(4,5,6,7,14,15,16,17)
1(1)
2(2)
3(3)
OSC
GND
OUT
OUT
D94IN161B
Pin x = Powerdip
Pin (x) = S020

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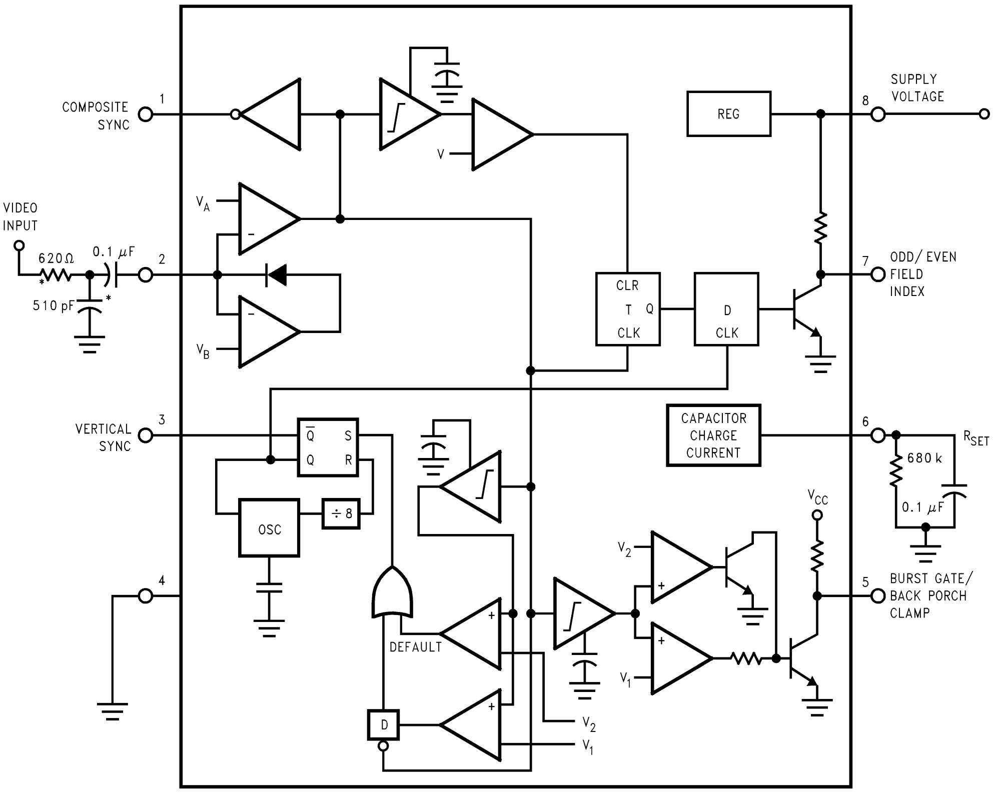
270901

Figure 9-25 Internal Block Diagram and pinning L4973

9.9.6 Diagram SC2, LM1881M (7040)


COMPOSITE SYNC
1
V
REG
8
SUPPLY VOLTAGE
VIDEO INPUT
V_A
620Ω
0.1 µF
2
510 pF
*
*
V_B
CLR
T Q
CLK
D
CLK
7
ODD/ EVEN FIELD INDEX
VERTICAL SYNC
3
Q̄ S
Q R
CAPACITOR CHARGE CURRENT
6
R_{SET}
680 k
0.1 µF
OSC
÷ 8
V_{CC}
V_2
4
DEFAULT
5
BURST GATE/ BACK PORCH CLAMP
V_1
D
V_2
V_1

CL 16532099_117.eps
270901

Figure 9-26 Internal Block Diagram and pinning LM1881

9.9.7 Diagram SP2, PCF8591 (7530)

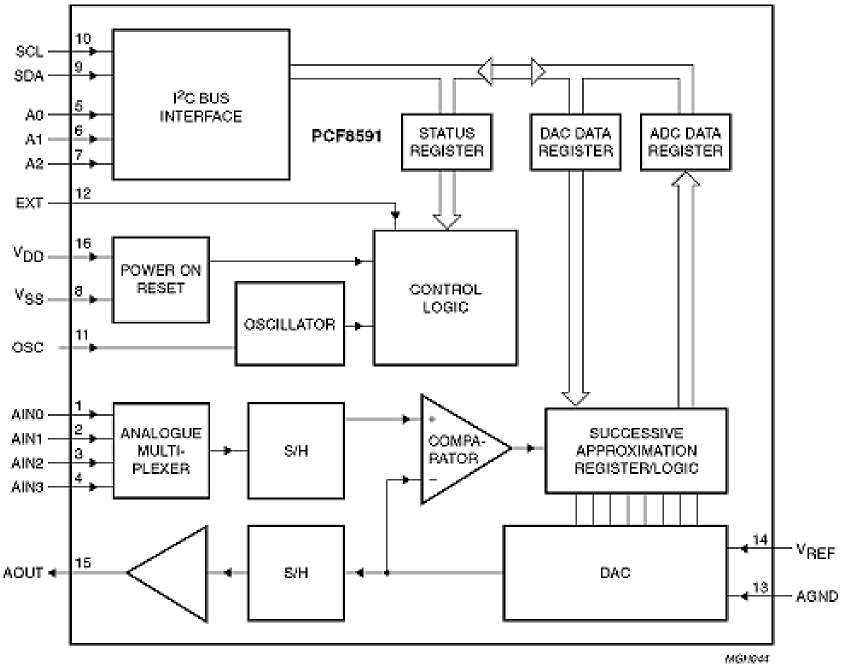

SCL
SDA
A0
A1
A2
EXT
VDD
VSS
OSC
AIN0
AIN1
AIN2
AIN3
AOUT
10
9
5
6
7
12
16
8
11
1
2
3
4
15
14
13
I²C BUS INTERFACE
PCF8591
STATUS REGISTER
DAC DATA REGISTER
ADC DATA REGISTER
POWER ON RESET
OSCILLATOR
CONTROL LOGIC
ANALOGUE MULTI-PLEXER
S/H
COMPA-RATOR
+
−
SUCCESSIVE APPROXIMATION REGISTER/LOGIC
S/H
DAC
VREF
AGND
MGN044

Figure 9-27 Internal Block Diagram PCF8591

10. Spare Parts List

Audio Panel [A]

Various

0302	2422 025 16846	Connector 9P m h
0303	2422 025 16702	Connector 5P m h
0304	2422 025 16543	Connector 4P m
0388	2422 025 16703	Connector 7P m
0388	2422 025 16704	Connector 8P m
1730	4822 071 52502	Fuse 2.5A
1730	4822 253 50137	Fuse 2.5A
1740	4822 071 52502	Fuse 2.5A
1740	4822 253 50137	Fuse 2.5A

⊣⊢

2201	4822 126 13193	4.7nF 10% 63V
2202	4822 124 23002	10µF 20% 16V
2204	4822 126 14226	82pF 5% 50V 0603
2205	4822 126 13193	4.7nF 10% 63V
2206	4822 124 23002	10µF 20% 16V
2207	4822 126 14226	82pF 5% 50V 0603
2212	5322 126 11578	1nF 10% 50V 0603
2215	4822 126 13193	4.7nF 10% 63V
2216	4822 124 23002	10µF 20% 16V
2218	4822 126 14226	82pF 5% 50V 0603
2220	4822 126 13193	4.7nF 10% 63V
2221	4822 124 23002	10µF 20% 16V
2222	4822 126 14226	82pF 5% 50V 0603
2224	2238 586 59812	100nF 20-80% 50V 0603
2224	4822 126 14305	100nF 10% 16V 0603
2225	2238 586 59812	100nF 20-80% 50V 0603
2225	4822 126 14305	100nF 10% 16V 0603
2233	2020 552 96325	25V 68nF 10%
2233	3198 017 31530	15nF 20% 50V 0603
2233	3198 017 36830	68nF 10% 16V 0603
2233	5322 126 11582	6.8nF 10% 63V
2234	2238 586 59812	100nF 20-80% 50V 0603
2234	3198 017 31530	15nF 20% 50V 0603
2234	4822 126 14494	22nF 10% 25V 0603
2238	2238 586 59812	100nF 20-80% 50V 0603
2238	4822 126 14305	100nF 10% 16V 0603
2239	2238 586 59812	100nF 20-80% 50V 0603
2239	4822 126 14305	100nF 10% 16V 0603
2243	2020 552 96325	25V 68nF 10%
2243	3198 017 31530	15nF 20% 50V 0603
2243	3198 017 36830	68nF 10% 16V 0603
2243	5322 126 11582	6.8nF 10% 63V
2244	2238 586 59812	100nF 20-80% 50V 0603
2244	3198 017 31530	15nF 20% 50V 0603
2244	4822 126 14494	22nF 10% 25V 0603
2255	4822 126 13193	4.7nF 10% 63V
2255	4822 126 14494	22nF 10% 25V 0603
2256	4822 126 13193	4.7nF 10% 63V
2256	4822 126 14494	22nF 10% 25V 0603
2260	2238 586 59812	100nF 20-80% 50V 0603
2260	4822 126 14305	100nF 10% 16V 0603
2261	2238 586 59812	100nF 20-80% 50V 0603
2261	4822 126 14305	100nF 10% 16V 0603
2270	4822 126 13193	4.7nF 10% 63V
2270	4822 126 14494	22nF 10% 25V 0603
2271	4822 126 13193	4.7nF 10% 63V
2271	4822 126 14494	22nF 10% 25V 0603
2309	4822 126 14247	1.5nF 50V 0603
2310	4822 126 14226	82pF 5% 50V 0603
2315	4822 124 12084	1µF 20% 50V
2315	4822 124 23002	10µF 20% 16V
2316	2238 586 59812	100nF 20-80% 50V 0603
2316	4822 126 14305	100nF 10% 16V 0603
2318	2238 586 59812	100nF 20-80% 50V 0603
2318	4822 126 14305	100nF 10% 16V 0603
2319	4822 124 12084	1µF 20% 50V
2319	4822 124 23002	10µF 20% 16V
2330	2238 586 59812	100nF 20-80% 50V 0603
2330	4822 126 14305	100nF 10% 16V 0603
2334	2020 012 93764	220µF 20% 35V
2335	2238 586 59812	100nF 20-80% 50V 0603
2335	4822 126 14305	100nF 10% 16V 0603
2340	5322 126 11583	10nF 10% 50V 0603
2355	2238 586 59812	100nF 20-80% 50V 0603
2355	4822 126 14305	100nF 10% 16V 0603
2359	2238 586 59812	100nF 20-80% 50V 0603
2359	4822 126 14305	100nF 10% 16V 0603
2360	2020 012 93764	220µF 20% 35V
2365	2020 552 96326	220nF 10% 16V
2366	2020 552 96326	220nF 10% 16V
2409	4822 126 14247	1.5nF 50V 0603
2410	4822 126 14226	82pF 5% 50V 0603
2415	4822 124 12084	1µF 20% 50V
2415	4822 124 23002	10µF 20% 16V
2416	2238 586 59812	100nF 20-80% 50V 0603
2416	4822 126 14305	100nF 10% 16V 0603
2418	2238 586 59812	100nF 20-80% 50V 0603
2418	4822 126 14305	100nF 10% 16V 0603
2419	4822 124 12084	1µF 20% 50V
2419	4822 124 23002	10µF 20% 16V
2430	2238 586 59812	100nF 20-80% 50V 0603
2430	4822 126 14305	100nF 10% 16V 0603
2434	2020 012 93764	220µF 20% 35V
2435	2238 586 59812	100nF 20-80% 50V 0603
2435	4822 126 14305	100nF 10% 16V 0603
2440	5322 126 11583	10nF 10% 50V 0603
2455	2238 586 59812	100nF 20-80% 50V 0603
2455	4822 126 14305	100nF 10% 16V 0603
2459	2238 586 59812	100nF 20-80% 50V 0603
2459	4822 126 14305	100nF 10% 16V 0603
2460	2020 012 93764	220µF 20% 35V
2465	2020 552 96326	220nF 10% 16V
2466	2020 552 96326	220nF 10% 16V
2509	4822 126 14247	1.5nF 50V 0603
2510	4822 126 14226	82pF 5% 50V 0603
2515	4822 124 12084	1µF 20% 50V
2515	4822 124 23002	10µF 20% 16V
2516	2238 586 59812	100nF 20-80% 50V 0603
2516	4822 126 14305	100nF 10% 16V 0603
2518	2238 586 59812	100nF 20-80% 50V 0603
2518	4822 126 14305	100nF 10% 16V 0603
2519	4822 124 12084	1µF 20% 50V
2519	4822 124 23002	10µF 20% 16V
2530	2238 586 59812	100nF 20-80% 50V 0603
2530	4822 126 14305	100nF 10% 16V 0603
2534	2020 012 93764	220µF 20% 35V
2535	2238 586 59812	100nF 20-80% 50V 0603
2535	4822 126 14305	100nF 10% 16V 0603
2540	5322 126 11583	10nF 10% 50V 0603
2555	2238 586 59812	100nF 20-80% 50V 0603
2555	4822 126 14305	100nF 10% 16V 0603
2559	2238 586 59812	100nF 20-80% 50V 0603
2559	4822 126 14305	100nF 10% 16V 0603
2560	2020 012 93764	220µF 20% 35V
2565	2020 552 96326	220nF 10% 16V
2566	2020 552 96326	220nF 10% 16V
2609	4822 126 14247	1.5nF 50V 0603
2610	4822 126 14226	82pF 5% 50V 0603
2615	4822 124 12084	1µF 20% 50V
2615	4822 124 23002	10µF 20% 16V
2616	2238 586 59812	100nF 20-80% 50V 0603
2616	4822 126 14305	100nF 10% 16V 0603
2618	2238 586 59812	100nF 20-80% 50V 0603
2618	4822 126 14305	100nF 10% 16V 0603
2619	4822 124 12084	1µF 20% 50V
2619	4822 124 23002	10µF 20% 16V
2630	2238 586 59812	100nF 20-80% 50V 0603
2630	4822 126 14305	100nF 10% 16V 0603
2634	2020 012 93764	220µF 20% 35V
2635	2238 586 59812	100nF 20-80% 50V 0603
2635	4822 126 14305	100nF 10% 16V 0603
2640	5322 126 11583	10nF 10% 50V 0603
2655	2238 586 59812	100nF 20-80% 50V 0603
2655	4822 126 14305	100nF 10% 16V 0603
2659	2238 586 59812	100nF 20-80% 50V 0603
2659	4822 126 14305	100nF 10% 16V 0603
2660	2020 012 93764	220µF 20% 35V
2665	2020 552 96326	220nF 10% 16V
2666	2020 552 96326	220nF 10% 16V
2730	2020 012 93764	220µF 20% 35V
2732	2020 012 93764	220µF 20% 35V
2733	4822 124 23002	10µF 20% 16V
2734	4822 124 12084	1µF 20% 50V
2734	4822 124 23002	10µF 20% 16V
2740	2020 012 93764	220µF 20% 35V
2742	2020 012 93764	220µF 20% 35V
2743	4822 124 23002	10µF 20% 16V
2744	4822 124 12084	1µF 20% 50V
2744	4822 124 23002	10µF 20% 16V
2752	4822 124 23002	10µF 20% 16V
2753	4822 124 23002	10µF 20% 16V
2759	5322 126 11578	1nF 10% 50V 0603
2760	5322 124 41945	22µF 20% 35V
2770	5322 126 11578	1nF 10% 50V 0603
2771	5322 126 11578	1nF 10% 50V 0603
2780	5322 126 11578	1nF 10% 50V 0603
2781	5322 126 11578	1nF 10% 50V 0603
2799	5322 126 11583	10nF 10% 50V 0603

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3201	4822 051 30221	220Ω 5% 0.062W
3202	4822 051 30102	1kΩ 5% 0.062W
3203	4822 051 30272	2.7kΩ 5% 0.062W
3203	4822 051 30332	3.3kΩ 5% 0.062W
3205	4822 051 30221	220Ω 5% 0.062W
3206	4822 051 30102	1kΩ 5% 0.062W
3207	4822 051 30272	2.7kΩ 5% 0.062W
3207	4822 051 30332	3.3kΩ 5% 0.062W
3210	4822 051 30333	33kΩ 5% 0.062W
3211	4822 117 13632	100kΩ 1% 0603 0.62W
3215	4822 051 30221	220Ω 5% 0.062W
3216	4822 051 30102	1kΩ 5% 0.062W
3217	4822 051 30272	2.7kΩ 5% 0.062W
3217	4822 051 30332	3.3kΩ 5% 0.062W
3220	4822 051 30221	220Ω 5% 0.062W
3221	4822 051 30102	1kΩ 5% 0.062W
3222	4822 051 30272	2.7kΩ 5% 0.062W
3222	4822 051 30332	3.3kΩ 5% 0.062W
3230	4822 051 30101	100Ω 5% 0.062W
3231	4822 051 30103	10kΩ 5% 0.062W
3231	4822 051 30222	2.2kΩ 5% 0.062W
3232	4822 051 30103	10kΩ 5% 0.062W
3232	4822 051 30152	1.5kΩ 5% 0.062W
3232	4822 051 30682	6.8kΩ 5% 0.062W
3233	4822 051 30103	10kΩ 5% 0.062W
3233	4822 051 30222	2.2kΩ 5% 0.062W
3234	4822 051 30272	2.7kΩ 5% 0.062W
3234	4822 051 30561	560Ω 5% 0.062W
3234	4822 117 12917	1Ω 5% 0.062W 0603
3240	4822 051 30101	100Ω 5% 0.062W
3241	4822 051 30103	10kΩ 5% 0.062W
3241	4822 051 30222	2.2kΩ 5% 0.062W
3242	4822 051 30103	10kΩ 5% 0.062W
3242	4822 051 30152	1.5kΩ 5% 0.062W
3242	4822 051 30682	6.8kΩ 5% 0.062W
3243	4822 051 30103	10kΩ 5% 0.062W
3243	4822 051 30222	2.2kΩ 5% 0.062W
3244	4822 051 30272	2.7kΩ 5% 0.062W
3244	4822 051 30561	560Ω 5% 0.062W
3244	4822 117 12917	1Ω 5% 0.062W 0603
3255	4822 051 30562	5.6kΩ 5% 0.063W 0603
3255	4822 117 11817	1.2kΩ 1% 1/16W
3256	4822 051 30153	15kΩ 5% 0.062W
3256	4822 051 30332	3.3kΩ 5% 0.062W
3257	4822 051 30222	2.2kΩ 5% 0.062W
3257	4822 051 30471	470Ω 5% 0.062W
3259	4822 117 12917	1Ω 5% 0.062W 0603
3270	4822 051 30562	5.6kΩ 5% 0.063W 0603
3270	4822 117 11817	1.2kΩ 1% 1/16W
3271	4822 051 30153	15kΩ 5% 0.062W
3271	4822 051 30332	3.3kΩ 5% 0.062W
3272	4822 051 30222	2.2kΩ 5% 0.062W
3272	4822 051 30471	470Ω 5% 0.062W
3274	4822 117 12917	1Ω 5% 0.062W 0603
3301	4822 051 30102	1kΩ 5% 0.062W
3301	4822 117 12902	8.2kΩ 1% 0.063W 0603
3302	4822 051 30103	10kΩ 5% 0.062W
3302	4822 051 30472	4.7kΩ 5% 0.062W
3303	4822 051 30102	1kΩ 5% 0.062W
3304	4822 051 30472	4.7kΩ 5% 0.062W
3306	4822 117 12902	8.2kΩ 1% 0.063W 0603
3306	4822 117 12903	1.8kΩ 1% 0.063W 0603
3307	4822 117 13632	100kΩ 1% 0603 0.62W
3308	4822 117 13632	100kΩ 1% 0603 0.62W
3309	4822 051 30181	180Ω 5% 0.062W
3310	4822 117 12864	82kΩ 5% 0.6W
3311	4822 051 30682	6.8kΩ 5% 0.062W
3311	4822 117 12917	1Ω 5% 0.062W 0603
3315	5322 117 11726	10Ω 5%
3318	5322 117 11726	10Ω 5%
3325	4822 117 11449	2.2kΩ 5% 0.1W 0805
3327	4822 117 11449	2.2kΩ 5% 0.1W 0805
3328	4822 051 30102	1kΩ 5% 0.062W
3330	5322 117 11726	10Ω 5%
3336	4822 051 30475	4.7MΩ 5% 0.062W 0603
3336	4822 117 12891	220kΩ 1% 0.063W 0603
3337	5322 117 11726	10Ω 5%
3340	4822 051 30103	10kΩ 5% 0.062W
3355	5322 117 11726	10Ω 5%
3361	4822 051 30475	4.7MΩ 5% 0.062W 0603
3361	4822 117 12891	220kΩ 1% 0.063W 0603
3362	5322 117 11726	10Ω 5%
3401	4822 051 30102	1kΩ 5% 0.062W
3401	4822 117 12902	8.2kΩ 1% 0.063W 0603
3402	4822 051 30103	10kΩ 5% 0.062W
3402	4822 051 30472	4.7kΩ 5% 0.062W

3403	4822 051 30102	1kΩ 5% 0.062W
3404	4822 051 30472	4.7kΩ 5% 0.062W
3406	4822 117 12902	8.2kΩ 1% 0.063W 0603
3406	4822 117 12903	1.8kΩ 1% 0.063W 0603
3407	4822 117 13632	100kΩ 1% 0603 0.62W
3408	4822 117 13632	100kΩ 1% 0603 0.62W
3409	4822 051 30181	180Ω 5% 0.062W
3410	4822 117 12864	82kΩ 5% 0.6W
3411	4822 051 30153	15kΩ 5% 0.062W
3415	5322 117 11726	10Ω 5%
3418	5322 117 11726	10Ω 5%
3425	4822 117 11449	2.2kΩ 5% 0.1W 0805
3427	4822 117 11449	2.2kΩ 5% 0.1W 0805
3428	4822 051 30102	1kΩ 5% 0.062W
3430	5322 117 11726	10Ω 5%
3436	4822 051 30475	4.7MΩ 5% 0.062W 0603
3436	4822 117 12891	220kΩ 1% 0.063W 0603
3437	5322 117 11726	10Ω 5%
3440	4822 051 30103	10kΩ 5% 0.062W
3455	5322 117 11726	10Ω 5%
3461	4822 051 30475	4.7MΩ 5% 0.062W 0603
3461	4822 117 12891	220kΩ 1% 0.063W 0603
3462	5322 117 11726	10Ω 5%
3501	4822 051 30102	1kΩ 5% 0.062W
3501	4822 117 12902	8.2kΩ 1% 0.063W 0603
3502	4822 051 30103	10kΩ 5% 0.062W
3502	4822 051 30472	4.7kΩ 5% 0.062W
3503	4822 051 30102	1kΩ 5% 0.062W
3504	4822 051 30472	4.7kΩ 5% 0.062W
3506	4822 117 12902	8.2kΩ 1% 0.063W 0603
3506	4822 117 12903	1.8kΩ 1% 0.063W 0603
3507	4822 117 13632	100kΩ 1% 0603 0.62W
3508	4822 117 13632	100kΩ 1% 0603 0.62W
3509	4822 051 30181	180Ω 5% 0.062W
3510	4822 117 12864	82kΩ 5% 0.6W
3511	4822 051 30682	6.8kΩ 5% 0.062W
3515	5322 117 11726	10Ω 5%
3518	5322 117 11726	10Ω 5%
3525	4822 117 11449	2.2kΩ 5% 0.1W 0805
3527	4822 117 11449	2.2kΩ 5% 0.1W 0805
3528	4822 051 30102	1kΩ 5% 0.062W
3530	5322 117 11726	10Ω 5%
3536	4822 051 30475	4.7MΩ 5% 0.062W 0603
3536	4822 117 12891	220kΩ 1% 0.063W 0603
3537	5322 117 11726	10Ω 5%
3540	4822 051 30103	10kΩ 5% 0.062W
3555	5322 117 11726	10Ω 5%
3561	4822 051 30475	4.7MΩ 5% 0.062W 0603
3561	4822 117 12891	220kΩ 1% 0.063W 0603
3562	5322 117 11726	10Ω 5%
3601	4822 051 30102	1kΩ 5% 0.062W
3601	4822 117 12902	8.2kΩ 1% 0.063W 0603
3602	4822 051 30103	10kΩ 5% 0.062W
3602	4822 051 30472	4.7kΩ 5% 0.062W
3603	4822 051 30102	1kΩ 5% 0.062W
3604	4822 051 30472	4.7kΩ 5% 0.062W
3606	4822 117 12902	8.2kΩ 1% 0.063W 0603
3606	4822 117 12903	1.8kΩ 1% 0.063W 0603
3607	4822 117 13632	100kΩ 1% 0603 0.62W
3608	4822 117 13632	100kΩ 1% 0603 0.62W
3609	4822 051 30181	180Ω 5% 0.062W
3610	4822 117 12864	82kΩ 5% 0.6W
3611	4822 051 30153	15kΩ 5% 0.062W
3611	4822 051 30223	22kΩ 5% 0.062W
3615	5322 117 11726	10Ω 5%
3618	5322 117 11726	10Ω 5%
3625	4822 117 11449	2.2kΩ 5% 0.1W 0805
3627	4822 117 11449	2.2kΩ 5% 0.1W 0805
3628	4822 051 30102	1kΩ 5% 0.062W
3630	5322 117 11726	10Ω 5%
3636	4822 051 30475	4.7MΩ 5% 0.062W 0603
3636	4822 117 12891	220kΩ 1% 0.063W 0603
3637	5322 117 11726	10Ω 5%
3640	4822 051 30103	10kΩ 5% 0.062W
3655	5322 117 11726	10Ω 5%
3661	4822 051 30475	4.7MΩ 5% 0.062W 0603
3661	4822 117 12891	220kΩ 1% 0.063W 0603
3662	5322 117 11726	10Ω 5%
3732	4822 051 30152	1.5kΩ 5% 0.062W
3732	4822 051 30272	2.7kΩ 5% 0.062W
3733	4822 051 30102	1kΩ 5% 0.062W
3733	4822 051 30221	220Ω 5% 0.062W
3742	4822 051 30152	1.5kΩ 5% 0.062W
3742	4822 051 30272	2.7kΩ 5% 0.062W
3743	4822 051 30102	1kΩ 5% 0.062W
3743	4822 051 30221	220Ω 5% 0.062W
3749	4822 051 30103	10kΩ 5% 0.062W
3750	4822 051 30471	470Ω 5% 0.062W
3751	4822 117 12925	47kΩ 1% 0.063W 0603
3752	4822 117 12925	47kΩ 1% 0.063W 0603
3754	4822 051 30102	1kΩ 5% 0.062W
3755	4822 117 13632	100kΩ 1% 0603 0.62W
3760	4822 051 30471	470Ω 5% 0.062W
3765	4822 117 13632	100kΩ 1% 0603 0.62W
3770	4822 117 13632	100kΩ 1% 0603 0.62W
3771	4822 117 13632	100kΩ 1% 0603 0.62W
3780	4822 117 13632	100kΩ 1% 0603 0.62W
3781	4822 117 13632	100kΩ 1% 0603 0.62W

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5335	4822 157 11717	BLM31P500SPT
5360	4822 157 11717	BLM31P500SPT
5365	2422 536 00338	33µH 10% SMD 10mm
5435	4822 157 11717	BLM31P500SPT
5460	4822 157 11717	BLM31P500SPT
5465	2422 536 00338	33µH 10% SMD 10mm
5535	4822 157 11717	BLM31P500SPT
5560	4822 157 11717	BLM31P500SPT
5565	2422 536 00338	33µH 10% SMD 10mm
5635	4822 157 11717	BLM31P500SPT
5660	4822 157 11717	BLM31P500SPT
5665	2422 536 00338	33µH 10% SMD 10mm
5714	4822 157 11717	BLM31P500SPT
5719	4822 157 11717	BLM31P500SPT
5725	4822 157 11717	BLM31P500SPT
5753	2422 549 43769	Bead 30Ω at 100MHz

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6328	4822 130 11397	BAS316
6334	4822 130 11148	UDZ4.7B
6335	4822 130 11148	UDZ4.7B
6355	4822 130 11148	UDZ4.7B
6356	4822 130 11148	UDZ4.7B
6359	4822 130 11148	UDZ4.7B
6360	4822 130 11148	UDZ4.7B
6428	4822 130 11397	BAS316
6434	4822 130 11148	UDZ4.7B
6435	4822 130 11148	UDZ4.7B
6455	4822 130 11148	UDZ4.7B
6456	4822 130 11148	UDZ4.7B
6459	4822 130 11148	UDZ4.7B
6460	4822 130 11148	UDZ4.7B
6528	4822 130 11397	BAS316
6534	4822 130 11148	UDZ4.7B
6535	4822 130 11148	UDZ4.7B
6555	4822 130 11148	UDZ4.7B
6556	4822 130 11148	UDZ4.7B
6559	4822 130 11148	UDZ4.7B
6560	4822 130 11148	UDZ4.7B
6628	4822 130 11397	BAS316
6634	4822 130 11148	UDZ4.7B
6635	4822 130 11148	UDZ4.7B
6655	4822 130 11148	UDZ4.7B
6656	4822 130 11148	UDZ4.7B
6659	4822 130 11148	UDZ4.7B
6660	4822 130 11148	UDZ4.7B
6732	4822 130 11551	UDZS10B
6742	4822 130 11551	UDZS10B
6750	4822 130 10328	BAV99W
6760	4822 130 10328	BAV99W

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7211	3198 010 42320	BC857BW
7211	5322 130 42756	BC857C
7225	4822 209 30095	LM833D
7238	4822 209 30095	LM833D
7260	4822 209 30095	LM833D
7302	3198 010 42310	BC847BW
7303	3198 010 42310	BC847BW
7315	9338 028 20668	LM311D
7330	4822 130 42804	BC817-25
7340	3198 010 42310	BC847BW
7355	5322 130 60845	BC807-25
7365	9322 161 86668	IRF7343
7402	3198 010 42310	BC847BW
7403	3198 010 42310	BC847BW
7415	9338 028 20668	LM311D
7430	4822 130 42804	BC817-25
7440	3198 010 42310	BC847BW
7455	5322 130 60845	BC807-25
7465	9322 161 86668	IRF7343
7502	3198 010 42310	BC847BW
7503	3198 010 42310	BC847BW
7515	9338 028 20668	LM311D
7530	4822 130 42804	BC817-25
7540	3198 010 42310	BC847BW
7555	5322 130 60845	BC807-25
7565	9322 161 86668	IRF7343
7602	3198 010 42310	BC847BW
7603	3198 010 42310	BC847BW
7615	9338 028 20668	LM311D
7630	4822 130 42804	BC817-25
7640	3198 010 42310	BC847BW
7655	5322 130 60845	BC807-25
7665	9322 161 86668	IRF7343
7735	4822 130 60142	BC869
7735	9322 168 88668	LM317D2T
7736	3198 010 42310	BC847BW
7745	5322 130 61569	BC868
7745	9322 150 89668	LM337D2T
7746	3198 010 42320	BC857BW
7746	5322 130 42756	BC857C
7751	3198 010 42310	BC847BW
7753	3198 010 42320	BC857BW
7753	5322 130 42756	BC857C
7755	3198 010 42310	BC847BW
7761	3198 010 42320	BC857BW
7761	5322 130 42756	BC857C

EMC Filter Panel [EMC]

Various

0002	3122 358 76831	EMC foam fiter panel
1320	2422 025 16545	Connector 10P m
1330	2422 025 16545	Connector 10P m
1345	2422 025 16835	Connector 3P
1355	2422 025 16835	Connector 3P

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2300	5322 126 11583	10nF 10% 50V 0603
2301	5322 126 11583	10nF 10% 50V 0603
2302	3198 016 31020	1nF 10% 25V 0603
2303	5322 126 11583	10nF 10% 50V 0603
2304	5322 126 11583	10nF 10% 50V 0603
2305	5322 126 11583	10nF 10% 50V 0603
2306	5322 126 11583	10nF 10% 50V 0603
2307	5322 126 11583	10nF 10% 50V 0603
2308	5322 126 11583	10nF 10% 50V 0603

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3300	4822 051 30101	100Ω 5% 0.062W
3301	4822 051 30101	100Ω 5% 0.062W
3302	4822 051 30101	100Ω 5% 0.062W
3303	4822 051 30101	100Ω 5% 0.062W
3304	4822 051 30101	100Ω 5% 0.062W
3305	4822 051 30101	100Ω 5% 0.062W
3306	4822 051 30101	100Ω 5% 0.062W
3307	4822 051 30101	100Ω 5% 0.062W

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5300	2422 549 43062	Bead 600Ω at 100MHz
5301	2422 549 43062	Bead 600Ω at 100MHz
5302	2422 549 43062	Bead 600Ω at 100MHz
5303	2422 549 43062	Bead 600Ω at 100MHz
5304	2422 549 43062	Bead 600Ω at 100MHz
5305	2422 549 43062	Bead 600Ω at 100MHz
5306	2422 549 43062	Bead 600Ω at 100MHz
5307	2422 549 43062	Bead 600Ω at 100MHz
5308	2422 549 43062	Bead 600Ω at 100MHz
5309	2422 549 43062	Bead 600Ω at 100MHz
5310	2422 549 43062	Bead 600Ω at 100MHz
5311	2422 549 43062	Bead 600Ω at 100MHz
5312	2422 549 43062	Bead 600Ω at 100MHz
5313	2422 549 43062	Bead 600Ω at 100MHz

LED/Switch Panel [LD]

Various

0040	3122 128 14292	Mains knob FM24 SL
0044	3122 124 36081	Day light filter
0317	2422 025 13369	Socket 6P (Telephone)
0320	2422 025 16545	Connector 10P m
1101	2422 128 02927	Switch push 2P
1101	4822 276 13483	Switch push 2P 25V h
1320	2422 025 16545	Connector 10P m
8320	3122 358 76521	Cable L20-S20 FM24

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2107	4822 124 12095	100µF 20% 16V
2120	2020 024 90166	10µF 20% 35V
2126	2020 552 96326	220nF 10% 16V

—WW—

3101	4822 051 30151	150Ω 5% 0.062W

3102	4822 117 13632	100kΩ 1% 0603 0.62W
3103	4822 051 30102	1kΩ 5% 0.062W
3103	4822 051 30221	220Ω 5% 0.062W
3104	4822 117 13632	100kΩ 1% 0603 0.62W
3105	4822 051 30102	1kΩ 5% 0.062W
3105	4822 051 30331	330Ω 5% 0.062W
3106	4822 051 30151	150Ω 5% 0.062W
3107	4822 051 30471	470Ω 5% 0.062W
3108	4822 051 30103	10kΩ 5% 0.062W
3109	4822 051 30101	100Ω 5% 0.062W
3120	4822 051 30472	4.7kΩ 5% 0.062W
3121	4822 051 30472	4.7kΩ 5% 0.062W
3122	4822 051 30102	1kΩ 5% 0.062W
3123	4822 051 30103	10kΩ 5% 0.062W
3124	4822 051 30102	1kΩ 5% 0.062W
3125	4822 051 30332	3.3kΩ 5% 0.062W
3126	4822 051 30474	470kΩ 5% 0.062W
3127	4822 051 30474	470kΩ 5% 0.062W
4101	4822 051 30008	Jumper 0603
4107	4822 051 30008	Jumper 0603

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5100	2422 549 43769	Bead 30Ω at 100MHz

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6101	4822 130 11564	UDZ3.9B
6103	4822 130 83915	TLMV3100
6105	4822 130 11564	UDZ3.9B
6127	9322 140 63685	TEMD5000

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7103	3198 010 42320	BC857BW
7103	5322 130 42756	BC857C
7103	9340 218 50115	BC857BW
7105	3198 010 42320	BC857BW
7105	5322 130 42756	BC857C
7105	9340 218 50115	BC857BW
7107	9322 155 82667	TSOP2236
7107	9322 155 98667	TSOP2236YA1
7107	9322 178 03667	TSOP2136YA1
7120	5322 209 82941	LM358D

Power Supply Panel FM23 AC [P]

Various

0003	3122 128 13822	Shielding frame
0003	3122 128 13913	Mounting kit assy
0006▲	4822 265 11253	Fuse holder 2p
0008▲	4822 265 11253	Fuse holder 2p
0010	3122 421 60171	Spring
0011	3122 421 60171	Spring
0015	4822 695 00005	Insulating plate
0016	3122 121 67211	Clip max247
0017	3122 121 67201	Clip large
0018	3122 121 67201	Clip large
0020	3122 121 67191	Clip small
0021	3122 121 67191	Clip small
0022	3122 121 67191	Clip small
0023	3122 121 67191	Clip small
0024	3122 121 67191	Clip small
0025	3122 121 67191	Clip small
0040	2413 015 00065	Cable tie BT18R/4B
0041	3122 124 36011	Thermo foam
0205	3104 308 78231	Transistor cooling clip
0206	3104 308 78231	Transistor cooling clip
0302	2422 025 10769	Connector 9P
0305	2422 025 10772	Connector 12P m
0306	2422 025 08149	Connector 6p m
0307	2422 025 17154	Connector 20P f
0307	2422 025 17759	Connector 20P f
0308▲	4822 265 20723	Connector 2p m
0319	2422 025 10668	Connector 13P m
0323	2422 025 15085	Connector 10P m
0333	2422 025 12827	Connector 9P m 3.96
0342	4822 267 10618	Connector 7P
0352	4822 267 10618	Connector 7P
0389	4822 267 10735	Connector 3p m
0390	4822 267 10735	Connector 3p m
0392	2422 025 09406	Connector 4p
1004▲	4822 070 32002	Fuse 2A
1005▲	4822 071 55002	Fuse T5A 250V
1041	4822 071 55002	Fuse T5A 250V
1042	4822 071 55002	Fuse T5A 250V
1045▲	4822 071 55002	Fuse T5A 250V
1084▲	2422 086 10849	Fuse F1A 250V
1084	4822 071 31002	Fuse F1A 250V
1084	9965 000 07788	Fuse T2A 250V
1110▲	4822 071 55002	Fuse T5A 250V
1200▲	9965 000 07788	Fuse T2A 250V
1260▲	2122 662 00107	Fuse RR60-075 A
1400▲	4822 253 30467	Fuse 6.3A
1401▲	9965 000 07788	Fuse T2A 250V
1402▲	4822 252 60151	Sparkgap dsp501
1450▲	4822 280 10382	SDT-SS-109DM
1460▲	4822 280 10382	SDT-SS-109DM
8303	3122 358 76301	Tree assy A03-LS left
8304	3122 358 76291	Tree assy A04-LS right

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2000	2020 554 90148	470pF 20% 250V
2001	2222 151 90048	47µF 20% 400V
2001	2222 151 90062	47µF 20% 450V
2002	4822 124 41751	47µF 20% 50V
2003	4822 124 12056	1000µF 20% 35V
2004	2222 464 90017	200pF 2% 630V
2005	4822 121 51288	100pF 630V
2006	3198 016 31020	1nF 10% 25V 0603
2007	2238 586 59812	100nF 20-80% 50V 0603
2007	4822 126 14305	100nF 10% 16V 0603
2008	5322 126 11583	10nF 10% 50V 0603
2009	4822 124 22652	2.2µF 20% 50V
2010	5322 126 11583	10nF 10% 50V 0603
2011	2222 375 90161	18nF 1.6kV 5%
2011	4822 121 70617	10nF 5% 1,6kV
2012	4822 126 11254	330pF 10% 2kV
2012	4822 126 13864	330PF 10% 2KV
2013	4822 126 11254	330pF 10% 2kV
2013	4822 126 13864	330PF 10% 2KV
2014	4822 126 13862	1.5nF 10% 2kV
2015	5322 126 11583	10nF 10% 50V 0603
2016	4822 124 22652	2.2µF 20% 50V
2017	4822 121 70617	10nF 5% 1,6kV
2020	2222 056 59222	2200µF 100V 20%
2021	2222 056 59222	2200µF 100V 20%
2022	4822 124 12056	1000µF 20% 35V
2023	2238 586 59812	100nF 20-80% 50V 0603
2023	4822 126 14305	100nF 10% 16V 0603
2024	4822 126 14043	1µF 20% 16V
2024	5322 126 11579	3.3nF 10% 63V
2025	2020 321 90041	180nF 250V 5%
2026	4822 126 14238	2.2nF 50V 0603
2027	3198 017 31530	15nF 20% 50V 0603
2028	2238 930 11541	220pF 5% 200V
2028	4822 126 13883	220pF 5% 50V
2029	4822 126 13883	220pF 5% 50V
2030	2238 586 59812	100nF 20-80% 50V 0603
2030	4822 126 14305	100nF 10% 16V 0603
2032	2238 916 15641	22nF 10% 25V 0603
2032	4822 126 14494	22nF 10% 25V 0603
2033	2238 586 59812	100nF 20-80% 50V 0603
2033	4822 126 14305	100nF 10% 16V 0603
2034	4822 126 11979	27pF 5% 2KV
2035	2238 586 15623	1nF 10% 50V 0603
2036	2238 916 15641	22nF 10% 25V 0603
2036	4822 126 14494	22nF 10% 25V 0603
2038	3198 016 31020	1nF 10% 25V 0603
2040	2238 586 59812	100nF 20-80% 50V 0603
2040	4822 126 14305	100nF 10% 16V 0603
2041	4822 126 13883	220pF 5% 50V
2042	4822 126 13883	220pF 5% 50V
2043	2020 021 91543	47µF 20% 160V
2043	2222 056 59222	2200µF 100V 20%
2044	2238 930 11541	220pF 5% 200V
2044	4822 126 13883	220pF 5% 50V
2045	4822 126 13883	220pF 5% 50V
2050	2238 586 59812	100nF 20-80% 50V 0603
2050	4822 126 14305	100nF 10% 16V 0603
2054	2020 552 94427	100pF 5% 50v 0603
2054	2238 606 11536	100pF 5% 100V
2054	4822 122 31765	100pF 2% 63V
2055	2238 606 11547	680pF 5% 680V
2055	3198 016 31020	1nF 10% 25V 0603
2058	4822 124 40756	1µF20% 100V
2059	2238 586 59812	100nF 20-80% 50V 0603
2059	4822 126 14305	100nF 10% 16V 0603
2061	2238 586 59812	100nF 20-80% 50V 0603
2061	4822 126 14305	100nF 10% 16V 0603
2090	4822 124 40196	220µF 20% 16V
2090	4822 124 40769	4.7µF 20% 100V
2111	4822 126 13883	220pF 5% 50V
2112	3198 016 31020	1nF 10% 25V 0603
2113	2020 012 93505	10µF 20% 25V
2113	4822 124 12379	220µF 25V
2113	4822 124 80144	220µF 20% 25V
2113	4822 124 80195	470µF 20% 10V
2113	4822 124 80875	220µF 20% 25V
2114	4822 126 13473	220nF 80-20% 50V
2117	2222 780 15656	330nF 10% 16V
2117	4822 126 12102	330nF 10% 16V 0805
2118	4822 126 11382	1nF 10% 1kV
2118	4822 126 13449	1nF 10% 2KV
2121	2222 056 59222	2200µF 100V 20%
2122	4822 121 51319	1µF 10% 63V
2123	4822 126 14043	1µF 20% 16V
2123	5322 126 11579	3.3nF 10% 63V
2126	2238 586 59812	100nF 20-80% 50V 0603
2126	4822 126 14305	100nF 10% 16V 0603
2133	3198 029 32290	22µF 20% 25V
2137	4822 126 14305	100nF 10% 16V 0603
2138	4822 124 21913	1µF 20% 63V
2203	2238 586 59812	100nF 20-80% 50V 0603
2203	4822 126 14305	100nF 10% 16V 0603
2205	2020 552 95447	2.2µF 20% 16V
2205	3198 032 64090	2.2µF 20% 25V
2210	4822 124 40433	47µF 20% 25V
2211	4822 126 13883	220pF 5% 50V
2212	2238 586 59812	100nF 20-80% 50V 0603
2212	4822 126 13879	220nF 20% 16V
2212	4822 126 14305	100nF 10% 16V 0603
2217	2222 780 15656	330nF 10% 16V
2217	4822 126 12102	330nF 10% 16V 0805
2218	2020 558 90609	4.7nF 10% 1kV
2218	2222 375 90141	3.3nF 1.6kV 5%
2219	2020 021 91543	47µF 20% 160V
2219	2222 151 90048	47µF 20% 400V
2222	2020 552 94427	100pF 5% 50v 0603
2222	4822 122 31765	100pF 2% 63V
2223	2020 552 94427	100pF 5% 50v 0603
2223	4822 122 31765	100pF 2% 63V
2224	2020 021 91551	2200µF 20% 25V
2225	2020 021 91551	2200µF 20% 25V
2226	2238 586 59812	100nF 20-80% 50V 0603
2226	4822 126 14305	100nF 10% 16V 0603
2227	2020 552 94427	100pF 5% 50v 0603
2227	4822 122 31765	100pF 2% 63V
2228	2020 021 91411	1000µF 20% 35V
2230	5322 121 10472	47µF
2231	5322 121 10472	47µF
2232	2020 552 94427	100pF 5% 50v 0603
2232	4822 122 31765	100pF 2% 63V
2260	4822 126 14043	1µF 20% 16V
2261	2020 021 91411	1000µF 20% 35V
2262	4822 126 13473	220nF 80-20% 50V
2263	2222 861 15272	2.7nF 5% 50V 0805
2264	4822 121 51252	470nF 5% 63V
2264	4822 126 13482	470nF 80-20% 16V
2265	4822 126 14241	330pF 50V 0603
2266	2238 916 15641	22nF 10% 25V 0603
2266	4822 126 14494	22nF 10% 25V 0603
2267	5322 126 10223	4.7nF 10% 63V
2268	4822 126 13473	220nF 80-20% 50V
2269	2020 021 91524	220µF 20% 25V
2270	4822 124 40433	47µF 20% 25V
2290	5322 126 11583	10nF 10% 50V 0603
2291	4822 126 13883	220pF 5% 50V
2292	2020 021 91354	1000µF 20% 50V
2293	4822 126 13883	220pF 5% 50V
2294	2020 021 91354	1000µF 20% 50V
2303	4822 121 42408	220nF 10% 50V
2304	2238 586 59812	100nF 20-80% 50V 0603
2304	3198 016 31020	1nF 10% 25V 0603
2304	4822 126 14305	100nF 10% 16V 0603
2305	2238 586 59812	100nF 20-80% 50V 0603
2305	4822 126 14305	100nF 10% 16V 0603
2306	2238 586 59812	100nF 20-80% 50V 0603
2306	4822 126 14305	100nF 10% 16V 0603
2316	2238 586 59812	100nF 20-80% 50V 0603
2322	2238 586 59812	100nF 20-80% 50V 0603
2322	4822 126 14305	100nF 10% 16V 0603
2324	2238 586 59812	100nF 20-80% 50V 0603
2324	4822 126 14305	100nF 10% 16V 0603
2343	4822 124 22652	2.2µF 20% 50V
2350	4822 124 40207	100µF 20% 25V
2352	2238 586 59812	100nF 20-80% 50V 0603
2352	4822 126 14305	100nF 10% 16V 0603
2364	2238 586 59812	100nF 20-80% 50V 0603
2364	4822 126 14305	100nF 10% 16V 0603
2366	4822 126 14585	100nF 10% 50V
2370	2238 586 59812	100nF 20-80% 50V 0603
2370	4822 126 14305	100nF 10% 16V 0603
2376	2238 586 59812	100nF 20-80% 50V 0603
2376	4822 126 14305	100nF 10% 16V 0603
2380	2238 586 59812	100nF 20-80% 50V 0603
2380	3198 016 31020	1nF 10% 25V 0603
2381	2238 586 59812	100nF 20-80% 50V 0603
2381	4822 126 14305	100nF 10% 16V 0603
2382	3198 016 31020	1nF 10% 25V 0603
2385	3198 017 41050	1µF 10V 0603
2393	2238 586 59812	100nF 20-80% 50V 0603
2393	4822 126 14305	100nF 10% 16V 0603
2396	4822 121 42408	220nF 10% 50V
2400	4822 126 13589	470nF 275V

2401	4822 121 10512	275V 220N 20%
2401	4822 126 13589	470nF 275V
2402	2020 554 90148	470pF 20% 250V
2403	2020 554 90148	470pF 20% 250V
2404	4822 126 14525	47pF 5% 1kV
2405	2020 554 90148	470pF 20% 250V
2405	4822 126 13841	1nF 20% 250V
2406	4822 126 14525	47pF 5% 1kV
2407	2020 554 90148	470pF 20% 250V
2465	4822 124 40207	100µF 20% 25V
2503	2222 151 90061	22µF 20% 450V
2503	2222 151 90062	47µF 20% 450V
2504	5322 126 11578	1nF 10% 50V 0603
2505	2020 021 91354	1000µF 20% 50V
2505	3198 028 44790	47µF 20% 35V
2507	2020 552 94427	100pF 5% 50v 0603
2507	4822 122 31765	100pF 2% 63V
2508	4822 124 12032	4.7µF 20% 50V
2509	2020 552 94427	100pF 5% 50v 0603
2509	4822 122 31765	100pF 2% 63V
2510	4822 124 81145	1000µF 16V 20%
2511	2238 586 59812	100nF 20-80% 50V 0603
2511	4822 126 14305	100nF 10% 16V 0603
2512	2238 586 59812	100nF 20-80% 50V 0603
2512	4822 126 14305	100nF 10% 16V 0603
2513	2238 586 59812	100nF 20-80% 50V 0603
2513	4822 126 14305	100nF 10% 16V 0603
2530	4822 124 40207	100µF 20% 25V
2530	5322 124 40641	10µF 20% 100V
2532	4822 124 40207	100µF 20% 25V
2533	4822 124 40207	100µF 20% 25V
2540	4822 124 40207	100µF 20% 25V
2541	4822 124 40207	100µF 20% 25V
2600	4822 122 33799	1nF 10% 1kV
2601	4822 122 33799	1nF 10% 1kV
2605	2222 479 90086	1µF 400V 5%
2608	3198 016 31020	1nF 10% 25V 0603
2610	4822 121 70581	1.5nF 5% 2kV
2612	5322 126 11578	1nF 10% 50V 0603
2613	5322 126 11578	1nF 10% 50V 0603
2616	2222 157 57331	330UF 30X50 450V
2640	4822 126 13881	470pF 5% 50V
2641	3198 016 31020	1nF 10% 25V 0603
2642	3198 016 31020	1nF 10% 25V 0603
2651	5322 126 11583	10nF 10% 50V 0603
2653	4822 126 14241	330pF 50V 0603
2654	4822 124 40433	47µF 20% 25V
2655	2238 780 15654	220nF 10% 16V
2655	4822 121 51319	1µF 10% 63V
2656	2238 586 59812	100nF 20-80% 50V 0603
2656	4822 126 14305	100nF 10% 16V 0603
2662	4822 124 80061	1000µF 20% 25V
2663	4822 124 40207	100µF 20% 25V
2664	4822 124 40207	100µF 20% 25V
2665	4822 126 13881	470pF 5% 50V
2666	4822 126 13193	4.7nF 10% 63V
2670	2238 586 59812	100nF 20-80% 50V 0603
2670	4822 126 14305	100nF 10% 16V 0603
2671	2238 586 59812	100nF 20-80% 50V 0603
2671	3198 017 34730	47nF 16V 0603
2671	4822 126 14305	100nF 10% 16V 0603
2672	2238 586 59812	100nF 20-80% 50V 0603
2672	4822 126 14305	100nF 10% 16V 0603
2673	4822 121 43343	4.7nF 10% 400V
2674	4822 121 41664	22nF 10% 400V
2700	4822 124 80791	470µF 20% 16V
2701	5322 126 11583	10nF 10% 50V 0603
2703	4822 124 80791	470µF 20% 16V
2707	5322 126 11583	10nF 10% 50V 0603
2709	4822 124 80791	470µF 20% 16V

3003	4822 117 13632	100kΩ 1% 0603 0.62W
3004	4822 051 30153	15kΩ 5% 0.062W
3005	4822 051 20393	39kΩ 5% 0.1W
3005	4822 051 30333	33kΩ 5% 0.062W
3006	4822 051 30103	10kΩ 5% 0.062W
3007	4822 051 20472	4.7kΩ 5% 0.1W
3007	4822 051 30472	4.7kΩ 5% 0.062W
3008	4822 051 30102	1kΩ 5% 0.062W
3009	4822 051 30102	1kΩ 5% 0.062W
3010	4822 051 30153	15kΩ 5% 0.062W
3011	4822 051 30561	560Ω 5% 0.062W
3012	4822 051 20472	4.7kΩ 5% 0.1W
3012	4822 051 30472	4.7kΩ 5% 0.062W
3013	4822 051 30103	10kΩ 5% 0.062W
3014	4822 116 52191	33Ω 5% 0.5W
3015	4822 116 52176	10Ω 5% 0.5W
3016	4822 051 30102	1kΩ 5% 0.062W
3017	4822 116 52191	33Ω 5% 0.5W
3018	4822 116 52176	10Ω 5% 0.5W
3019	4822 051 30102	1kΩ 5% 0.062W

3020	4822 051 30563	56kΩ 5% 0.062W
3021	4822 053 11688	6.8Ω 5% 2W
3022	4822 051 30331	330Ω 5% 0.062W
3023	4822 117 12902	8.2kΩ 1% 0.063W 0603
3023	4822 117 12925	47kΩ 1% 0.063W 0603
3024	4822 050 27503	75kΩ 1% 0,6W
3025	4822 117 12903	1.8kΩ 1% 0.063W 0603
3026	4822 101 11186	470Ω 30% 0.1W
3026	4822 101 11383	470Ω 30% LIN
3027	4822 117 12925	47kΩ 1% 0.063W 0603
3028	4822 117 10362	7.5kΩ 1% 0,1W
3029	4822 051 30102	1kΩ 5% 0.062W
3030	4822 051 30183	18kΩ 5% 0.062W
3031	2322 704 61103	11kΩ 1% 0603
3032	2322 704 61103	11kΩ 1% 0603
3033	4822 051 30222	2.2kΩ 5% 0.062W
3037	4822 051 30103	10kΩ 5% 0.062W
3038	4822 117 13632	100kΩ 1% 0603 0.62W
3039	4822 051 30105	1MΩ 5% 0.062W
3040	4822 117 10837	100kΩ 1% 0.1W
3041	4822 051 30333	33kΩ 5% 0.062W
3042	4822 051 30471	470Ω 5% 0.062W
3043	4822 051 20472	4.7kΩ 5% 0.1W
3043	4822 051 30472	4.7kΩ 5% 0.062W
3044	4822 051 30102	1kΩ 5% 0.062W
3045	4822 051 30102	1kΩ 5% 0.062W
3046	4822 053 20565	5.6MΩ 5% 0.25W
3047	4822 051 30154	150kΩ 5% 0.062W
3048	4822 051 20472	4.7kΩ 5% 0.1W
3048	4822 051 30472	4.7kΩ 5% 0.062W
3049	4822 051 30123	12kΩ 5% 0.062W
3050⚠	4822 052 10398	3.9Ω 5% 0,33W
3051	4822 051 20399	39Ω 5% 0.1W
3052	2322 662 93135	100Ω PTC 500V
3053	2322 662 93131	10Ω PTC
3053	2322 662 93135	100Ω PTC 500V
3054	4822 050 21003	10kΩ 1% 0.6W
3056	4822 051 30331	330Ω 5% 0.062W
3057	4822 051 30101	100Ω 5% 0.062W
3057	4822 051 30331	330Ω 5% 0.062W
3058	2322 730 61224	220kΩ 5% 0.062W 0805
3058	4822 051 20105	1MΩ 5% 0.1W
3061	4822 117 12925	47kΩ 1% 0.063W 0603
3062	4822 051 30102	1kΩ 5% 0.062W
3064	4822 051 30103	10kΩ 5% 0.062W
3065	4822 051 30102	1kΩ 5% 0.062W
3066	4822 051 30103	10kΩ 5% 0.062W
3067	4822 051 30153	15kΩ 5% 0.062W
3070	4822 051 30103	10kΩ 5% 0.062W
3071	4822 117 12925	47kΩ 1% 0.063W 0603
3075	4822 116 83866	1MΩ 5% 0.5W
3076	4822 117 13632	100kΩ 1% 0603 0.62W
3077	4822 116 83866	1MΩ 5% 0.5W
3078	4822 117 13632	100kΩ 1% 0603 0.62W
3080	4822 051 30101	100Ω 5% 0.062W
3081	4822 051 30222	2.2kΩ 5% 0.062W
3082	4822 051 30103	10kΩ 5% 0.062W
3083	4822 051 10102	1kΩ 2% 0.25W
3084	4822 051 30103	10kΩ 5% 0.062W
3085	4822 117 12925	47kΩ 1% 0.063W 0603
3086	4822 117 12925	47kΩ 1% 0.063W 0603
3087	4822 117 12925	47kΩ 1% 0.063W 0603
3088	4822 117 12925	47kΩ 1% 0.063W 0603
3090	4822 051 30101	100Ω 5% 0.062W
3090	4822 051 30471	470Ω 5% 0.062W
3091	4822 051 30102	1kΩ 5% 0.062W
3092	4822 051 30471	470Ω 5% 0.062W
3092	4822 051 30472	4.7kΩ 5% 0.062W
3093	4822 051 30102	1kΩ 5% 0.062W
3095	4822 051 30471	470Ω 5% 0.062W
3096	4822 051 30562	5.6kΩ 5% 0.063W 0603
3097	4822 117 12968	820Ω 5% 0.62W
3110	4822 051 30102	1kΩ 5% 0.062W
3111	4822 051 30102	1kΩ 5% 0.062W
3112	4822 051 30102	1kΩ 5% 0.062W
3113	4822 051 30474	470kΩ 5% 0.062W
3114	4822 051 20564	560kΩ 5% 0.1W
3115	4822 117 12891	220kΩ 1% 0.063W 0603
3116	4822 051 30102	1kΩ 5% 0.062W
3117	4822 051 30103	10kΩ 5% 0.062W
3118	4822 116 83303	0.1Ω 2W
3119	4822 116 83303	0.1Ω 2W
3120	4822 051 30331	330Ω 5% 0.062W
3120	4822 117 12903	1.8kΩ 1% 0.063W 0603
3121	4822 117 12902	8.2kΩ 1% 0.063W 0603
3121	4822 117 12925	47kΩ 1% 0.063W 0603
3122	2322 734 67503	75kΩ 1% 0.062W 0805
3123	4822 117 10965	18kΩ 1% 0.1W
3124	2120 108 94004	7.5kΩ 1% 0603
3125	2120 108 94004	7.5kΩ 1% 0603
3126	4822 051 30222	2.2kΩ 5% 0.062W
3127	4822 101 11187	1kΩ 30% 0,1W
3128	4822 051 30333	33kΩ 5% 0.062W
3129	4822 053 10103	10kΩ 5% 1W

3130	4822 051 30102	1kΩ 5% 0.062W
3131	2322 704 61103	11kΩ 1% 0603
3132	4822 051 30103	10kΩ 5% 0.062W
3133	4822 051 30101	100Ω 5% 0.062W
3133	4822 051 30331	330Ω 5% 0.062W
3134	4822 051 30331	330Ω 5% 0.062W
3135	4822 117 12925	47kΩ 1% 0.063W 0603
3136	4822 117 12925	47kΩ 1% 0.063W 0603
3137	4822 117 12925	47kΩ 1% 0.063W 0603
3138	4822 117 11503	220Ω 1% 0.1W
3139	4822 117 11503	220Ω 1% 0.1W
3140	2322 734 67503	75kΩ 1% 0.062W 0805
3141	2322 734 67503	75kΩ 1% 0.062W 0805
3142	5322 117 12487	1kΩ 1% 0.125W
3143	4822 053 11472	4kΩ 5% 2W
3146	2306 327 90035	Jump. 0.22Ω
3147	2322 704 61103	11kΩ 1% 0603
3200	2322 730 61224	220kΩ 5% 0.062W 0805
3201	4822 053 10103	10kΩ 5% 1W
3202	4822 051 30479	47Ω 5% 0.062W
3203	4822 051 30101	100Ω 5% 0.062W
3204	4822 117 13632	100kΩ 1% 0603 0.62W
3205	4822 117 13632	100kΩ 1% 0603 0.62W
3212	4822 051 30102	1kΩ 5% 0.062W
3213	4822 051 30105	1MΩ 5% 0.062W
3214	4822 117 12889	270kΩ 1% 0.063W 0603
3216	4822 051 30102	1kΩ 5% 0.062W
3217	4822 051 30103	10kΩ 5% 0.062W
3218	4822 116 83303	0.1Ω 2W
3219	4822 116 83303	0.1Ω 2W
3224	5322 117 13028	12kΩ 1% 0.063W 0603
3225	2322 704 61103	11kΩ 1% 0603
3226	4822 051 30103	10kΩ 5% 0.062W
3228	4822 051 30151	150Ω 5% 0.062W
3240	4822 051 30102	1kΩ 5% 0.062W
3241	4822 051 30102	1kΩ 5% 0.062W
3260	4822 051 30102	1kΩ 5% 0.062W
3261	4822 051 30102	1kΩ 5% 0.062W
3262	4822 117 11188	20kΩ 1% 0,1W
3264	4822 051 30682	6.8kΩ 5% 0.062W
3265	4822 051 30102	1kΩ 5% 0.062W
3268	4822 051 30102	1kΩ 5% 0.062W
3268	4822 117 13632	100kΩ 1% 0603 0.62W
3292	4822 051 30561	560Ω 5% 0.062W
3300	4822 117 13579	220kΩ 1% 0.1W 0805
3301	4822 117 13579	220kΩ 1% 0.1W 0805
3302	2312 916 71004	100kΩ 1%
3302	4822 117 13579	220kΩ 1% 0.1W 0805
3302	8222 676 14191	100kΩ 1% 0.062W 0805
3303	2312 916 71004	100kΩ 1%
3303	4822 117 13579	220kΩ 1% 0.1W 0805
3303	8222 676 14201	57kΩ 1% 0.062W 0805
3304	4822 051 30102	1kΩ 5% 0.062W
3305	2312 916 76202	6.2kΩ 1%
3305	2322 704 61103	11kΩ 1% 0603
3305	4822 051 30008	Jumper 0603
3306	2322 704 61103	11kΩ 1% 0603
3307	2322 704 61103	11kΩ 1% 0603
3307	5322 117 13028	12kΩ 1% 0.063W 0603
3308	4822 051 30102	1kΩ 5% 0.062W
3309	4822 051 30102	1kΩ 5% 0.062W
3310	4822 051 30472	4.7kΩ 5% 0.062W
3311	4822 117 13579	220kΩ 1% 0.1W 0805
3312	4822 051 30102	1kΩ 5% 0.062W
3313	2120 108 94004	7.5kΩ 1% 0603
3313	2322 704 61103	11kΩ 1% 0603
3313	4822 117 11188	20kΩ 1% 0,1W
3314	2120 108 94004	7.5kΩ 1% 0603
3315	5322 117 12487	1kΩ 1% 0.125W
3316	2312 916 77502	7.5kΩ 1%
3316	4822 117 11596	390Ω 1% 0.1W
3317	2120 108 94004	7.5kΩ 1% 0603
3318	4822 051 30102	1kΩ 5% 0.062W
3319	4822 051 30472	4.7kΩ 5% 0.062W
3320	2322 704 61103	11kΩ 1% 0603
3320	4822 117 10833	10kΩ 1% 0.1W
3321	4822 051 30102	1kΩ 5% 0.062W
3322	4822 117 10833	10kΩ 1% 0.1W
3322	5322 117 13042	3.9kΩ 1% 0.063W 0603
3323	4822 117 10833	10kΩ 1% 0.1W
3323	5322 117 13028	12kΩ 1% 0.063W 0603
3324	4822 051 30102	1kΩ 5% 0.062W
3325	4822 051 30471	470Ω 5% 0.062W
3326	4822 051 30472	4.7kΩ 5% 0.062W
3327	4822 051 30103	10kΩ 5% 0.062W
3328	4822 051 30103	10kΩ 5% 0.062W
3330	4822 051 30102	1kΩ 5% 0.062W
3331	4822 051 30472	4.7kΩ 5% 0.062W
3332	4822 117 11144	3.9kΩ 1% 0.1W
3333	4822 051 30102	1kΩ 5% 0.062W
3334	4822 117 12955	2.7kΩ 1% 0.1W 0805
3335	4822 116 83933	15kΩ 1% 0.1W
3338	4822 051 30102	1kΩ 5% 0.062W
3339	4822 051 30472	4.7kΩ 5% 0.062W

3340	4822 051 30102	1kΩ 5% 0.062W
3341	4822 051 30103	10kΩ 5% 0.062W
3342	4822 051 30103	10kΩ 5% 0.062W
3343	4822 051 30102	1kΩ 5% 0.062W
3344	4822 051 30102	1kΩ 5% 0.062W
3345	4822 051 30472	4.7kΩ 5% 0.062W
3346	4822 051 30102	1kΩ 5% 0.062W
3347	4822 051 30331	330Ω 5% 0.062W
3348	4822 051 30331	330Ω 5% 0.062W
3349	4822 051 30102	1kΩ 5% 0.062W
3350	4822 051 30472	4.7kΩ 5% 0.062W
3351	4822 051 30103	10kΩ 5% 0.062W
3352	4822 051 30103	10kΩ 5% 0.062W
3353	4822 051 30103	10kΩ 5% 0.062W
3354	4822 051 30472	4.7kΩ 5% 0.062W
3358	4822 051 30222	2.2kΩ 5% 0.062W
3359	4822 051 30472	4.7kΩ 5% 0.062W
3360	4822 117 11817	1.2kΩ 1% 1/16W
3361	4822 051 30472	4.7kΩ 5% 0.062W
3362	4822 051 30102	1kΩ 5% 0.062W
3363	4822 051 30102	1kΩ 5% 0.062W
3364	4822 051 30102	1kΩ 5% 0.062W
3365	4822 051 30102	1kΩ 5% 0.062W
3366	4822 051 30103	10kΩ 5% 0.062W
3367	4822 051 30103	10kΩ 5% 0.062W
3368	2120 660 90042	PTC 330Ω 16V
3369	4822 051 30272	2.7kΩ 5% 0.062W
3370	4822 051 30101	100Ω 5% 0.062W
3371	4822 051 30101	100Ω 5% 0.062W
3372	9337 224 50116	Temp sens. KTY81-210
3372	9337 224 60116	Temp sens. KTY81-220
3373	4822 051 30103	10kΩ 5% 0.062W
3373	4822 051 30472	4.7kΩ 5% 0.062W
3374	4822 117 12925	47kΩ 1% 0.063W 0603
3375	4822 117 12925	47kΩ 1% 0.063W 0603
3376	4822 117 12925	47kΩ 1% 0.063W 0603
3377	4822 051 30103	10kΩ 5% 0.062W
3377	4822 051 30472	4.7kΩ 5% 0.062W
3378	4822 051 30103	10kΩ 5% 0.062W
3378	4822 117 12925	47kΩ 1% 0.063W 0603
3380	4822 117 12925	47kΩ 1% 0.063W 0603
3381	4822 117 12925	47kΩ 1% 0.063W 0603
3382	4822 117 11449	2.2kΩ 5% 0.1W 0805
3382	4822 117 12955	2.7kΩ 1% 0.1W 0805
3382	5322 117 13039	222kΩ 1% 0.063W 0603
3382	8222 676 14211	4.75kΩ 1% 0.062W 0805
3383	4822 051 30471	470Ω 5% 0.062W
3384	4822 051 30471	470Ω 5% 0.062W
3385	4822 117 13632	100kΩ 1% 0603 0.62W
3386	4822 117 13632	100kΩ 1% 0603 0.62W
3387	4822 051 30471	470Ω 5% 0.062W
3388	4822 051 30102	1kΩ 5% 0.062W
3389	4822 051 30102	1kΩ 5% 0.062W
3390	4822 051 30102	1kΩ 5% 0.062W
3390	4822 051 30103	10kΩ 5% 0.062W
3391	4822 051 30103	10kΩ 5% 0.062W
3392	4822 051 30102	1kΩ 5% 0.062W
3393	4822 051 30102	1kΩ 5% 0.062W
3393	4822 051 30103	10kΩ 5% 0.062W
3394	4822 051 30102	1kΩ 5% 0.062W
3395	4822 051 30103	10kΩ 5% 0.062W
3396	2312 916 71004	100kΩ 1%
3397	2312 916 71004	100kΩ 1%
3400	2322 595 90021	VDR 1mA/495V 850V
3401	4822 117 10118	1MΩ 5% 0,5W
3402	4822 053 21475	4.7MΩ 5% 0,5W
3403	4822 053 21475	4.7MΩ 5% 0,5W
3404	4822 116 83872	220Ω 5% 0.5W
3450	2322 662 93131	10Ω PTC
3451	2322 662 93131	10Ω PTC
3452	2122 612 00051	NTC 1Ω 20%
3460	4822 051 30472	4.7kΩ 5% 0.062W
3461	4822 051 30103	10kΩ 5% 0.062W
3463	4822 051 30103	10kΩ 5% 0.062W
3465	4822 051 30103	10kΩ 5% 0.062W
3467	4822 051 30103	10kΩ 5% 0.062W
3469	4822 051 30472	4.7kΩ 5% 0.062W
3470	4822 051 30103	10kΩ 5% 0.062W
3501	4822 051 30101	100Ω 5% 0.062W
3502	4822 051 30471	470Ω 5% 0.062W
3503	5322 117 13026	4.7kΩ 1% 0.063W 0603
3503	5322 117 13042	3.9kΩ 1% 0.063W 0603
3504	5322 117 13024	33kΩ 1% 0.063W 0603
3505	4822 117 11139	1.5kΩ 1% 0.1W
3505	5322 117 13034	1.5kΩ 1% 0.063W 0603
3506	2322 662 93131	10Ω PTC
3507	4822 053 20225	2.2MΩ 5% 0.25W
3508	2322 194 63109	10Ω 5% 2W
3520	4822 051 30102	1kΩ 5% 0.062W
3520	4822 051 30109	10Ω 5% 0.062W
3530	4822 117 13632	100kΩ 1% 0603 0.62W
3608	4822 116 52179	12Ω 5% 0,5W
3610	5322 116 53564	3.3Ω 5% 0.5W
3611	4822 050 11002	1kΩ 1% 0.4W

3613	2120 106 90565	0.1Ω 5% 1W
3614	2120 106 90565	0.1Ω 5% 1W
3614	2120 106 90639	0.12Ω 5% 1W
3615	2120 106 90639	0.12Ω 5% 1W
3639	4822 051 30102	1kΩ 5% 0.062W
3640	4822 051 30331	330Ω 5% 0.062W
3641	4822 051 30471	470Ω 5% 0.062W
3642	4822 051 30101	100Ω 5% 0.062W
3650	2322 156 21305	1.3MΩ 1% 0,25W
3651	4822 051 30103	10kΩ 5% 0.062W
3651	4822 051 30472	4.7kΩ 5% 0.062W
3652	4822 051 30105	1MΩ 5% 0.062W
3653	4822 116 52231	820Ω 5% 0.5W
3654	4822 051 30103	10kΩ 5% 0.062W
3655	4822 051 30102	1kΩ 5% 0.062W
3663	4822 052 10108	1Ω 5% 0.33W
3664	4822 117 13579	220kΩ 1% 0.1W 0805
3665	4822 051 30103	10kΩ 5% 0.062W
3666	4822 116 52175	100Ω 5% 0.5W
3667	4822 051 30103	10kΩ 5% 0.062W
3668	4822 052 11102	1kΩ 5% 0,5W
3670	4822 050 27504	750kΩ 1% 0,6W
3671	4822 117 10833	10kΩ 1% 0.1W
3673	4822 052 11102	1kΩ 5% 0,5W
3674	4822 053 20105	1MΩ 5% 0,25W
3675	4822 053 10221	220Ω 5% 1W
3676	4822 053 10471	470Ω 5% 1W
3700	4822 051 30102	1kΩ 5% 0.062W
3700	4822 051 30331	330Ω 5% 0.062W
3701	4822 051 30102	1kΩ 5% 0.062W
3701	4822 051 30222	2.2kΩ 5% 0.062W
3702	4822 051 30102	1kΩ 5% 0.062W
3702	4822 051 30222	2.2kΩ 5% 0.062W
3703	4822 051 30101	100Ω 5% 0.062W
3703	4822 051 30102	1kΩ 5% 0.062W
3706	4822 051 30102	1kΩ 5% 0.062W
3706	4822 051 30331	330Ω 5% 0.062W
3707	4822 051 30102	1kΩ 5% 0.062W
3707	4822 051 30222	2.2kΩ 5% 0.062W
3708	4822 051 30102	1kΩ 5% 0.062W
3708	4822 051 30222	2.2kΩ 5% 0.062W
3709	4822 051 30101	100Ω 5% 0.062W
3709	4822 051 30102	1kΩ 5% 0.062W
3999	4822 051 30102	1kΩ 5% 0.062W
4268	4822 051 30008	Jumper 0603

5001	3128 138 38561	Transformer CE136H
5001	8222 289 53691	Driver transf. CE136H
5002▲	3128 138 40371	Transformer CE423D
5003	4822 157 71442	150µH 10%
5120	3128 138 40381	Inductor Coil CU20V
5200	3198 018 71010	100µF 10%
5213	2422 264 00433	Loudspeaker 8Ω 15W
5214	2422 264 00433	Loudspeaker 8Ω 15W
5215	2422 264 00432	Tweeter 8Ω 15W R49
5216	2422 264 00432	Tweeter 8Ω 15W R49
5220	3128 138 70541	Transformer CT296F
5224	2422 535 95273	6.8µH 20%
5225	2422 535 95273	6.8µH 20%
5260	3198 018 71010	100µF 10%
5268	2422 536 00288	100µH 10%
5290	3128 138 40391	Transformer CU15
5291	4822 157 71467	39µH 10%
5292	4822 157 71467	39µH 10%
5293	4822 157 71467	39µH 10%
5401▲	3122 138 38901	Mains filter CU28D3
5402▲	3122 138 38901	Mains filter CU28D3
5500▲	3128 138 40361	Transformer CE165T
5505	4822 157 71467	39µH 10%
5600	3128 138 40351	Coil CE423D
5612	4822 157 11411	Bead 83Ω at 100MHz
5703	4822 157 71414	1000µH 10%
5704	4822 157 11499	BLM11P600SPT
5709	4822 157 71414	1000µH 10%
5710	4822 157 11499	BLM11P600SPT

6004	4822 130 11397	BAS316
6005	4822 130 11397	BAS316
6007	4822 130 30621	1N4148
6008	4822 130 30621	1N4148
6009	4822 130 11397	BAS316
6010	4822 130 11397	BAS316
6011	4822 130 11397	BAS316
6012	4822 130 34281	BZX79-B15
6013	4822 130 34281	BZX79-B15
6018	4822 130 11397	BAS316
6019	4822 130 11397	BAS316
6021	4822 130 32961	BYV28-200
6021	9340 550 66112	BYV28-200/24
6022	4822 130 11397	BAS316
6023	4822 130 11397	BAS316
6027	4822 130 30621	1N4148
6028	4822 130 30621	1N4148
6031	9322 129 37685	BZM55-C5V6
6032	9322 129 37685	BZM55-C5V6
6033	4822 130 11594	BZX284-C47
6034	4822 130 11397	BAS316
6035	4822 130 11397	BAS316
6041	9322 167 08687	STTH2003CF
6042	9322 150 18685	BZX384-C47
6044	9322 167 08687	STTH2003CF
6045	4822 130 32961	BYV28-200
6045	9340 550 66112	BYV28-200/24
6050	4822 130 31024	BZX79-B18
6053	4822 130 42488	BYD33D
6054	4822 130 42488	BYD33D
6055	4822 130 42488	BYD33D
6061	4822 130 31024	BZX79-B18
6075	9336 018 60133	BZT03-C300
6077	9336 018 60133	BZT03-C300
6082	4822 130 11397	BAS316
6086	4822 130 83757	BAS216
6095	4822 130 11397	BAS316
6111	4822 130 11397	BAS316
6112	4822 130 11397	BAS316
6113	4822 130 11397	BAS316
6117	4822 130 11152	UDZ18B
6120	4822 130 11596	BYW29EX-200
6123	4822 130 11397	BAS316
6132	4822 130 11397	BAS316
6133	4822 130 11397	BAS316
6142	4822 130 42488	BYD33D
6142	9340 550 66112	BYV28-200/24
6202	4822 130 11397	BAS316
6205	4822 130 11152	UDZ18B
6206	4822 130 11397	BAS316
6211	9322 128 65685	RS1G
6213	4822 130 11397	BAS316
6216	4822 130 11152	UDZ18B
6224	9322 164 40682	STPS20L40CF
6224	9322 173 47687	STPS20L40CFP
6225	9322 164 40682	STPS20L40CF
6225	9322 173 47687	STPS20L40CFP
6230	4822 130 42488	BYD33D
6230	5322 130 31938	BYV27-200
6230	9340 550 66112	BYV28-200/24
6232	4822 130 11522	UDZ15B
6260	4822 130 11421	BT151X-500R
6267	9322 161 77682	SB540L-7024
6290	4822 130 11596	BYW29EX-200
6291	9322 131 78682	D4SBL20
6293	4822 130 11596	BYW29EX-200
6312	4822 130 11397	BAS316
6312	4822 130 11528	1PS76SB10
6313	4822 130 11528	1PS76SB10
6314	4822 130 11397	BAS316
6321	4822 130 11397	BAS316
6321	4822 130 11528	1PS76SB10
6322	4822 130 11528	1PS76SB10
6324	4822 130 11397	BAS316
6325	4822 130 11416	PDZ6.8B
6333	4822 130 11397	BAS316
6333	4822 130 11528	1PS76SB10
6334	4822 130 11528	1PS76SB10
6335	4822 130 11397	BAS316
6340	4822 130 11397	BAS316
6340	4822 130 11528	1PS76SB10
6341	4822 130 11528	1PS76SB10
6342	4822 130 11397	BAS316
6344	4822 130 10838	UDZ3.3B
6347	4822 130 10654	BAT254
6348	4822 130 20297	BT169B
6362	4822 130 11397	BAS316
6364	4822 130 11397	BAS316
6365	4822 130 11397	BAS316
6375	4822 130 11397	BAS316
6376	4822 130 11397	BAS316
6378	4822 130 11528	1PS76SB10
6390	4822 130 11397	BAS316
6460	4822 130 11397	BAS316
6461	4822 130 11397	BAS316
6470	4822 130 11397	BAS316
6471	4822 130 11397	BAS316
6501	9336 018 60133	BZT03-C300
6502	9336 018 60133	BZT03-C300
6503	9322 128 65685	RS1G
6504	9322 128 65685	RS1G
6505	9322 161 76682	SB340L-7024
6510	9322 099 61685	BYG10J
6511	9322 099 61685	BYG10J
6512	9322 099 61685	BYG10J
6513	9322 099 61685	BYG10J

6520	4822 130 11397	BAS316
6530	4822 130 11152	UDZ18B
6531	4822 130 11152	UDZ18B
6600	9322 131 67679	GBU8JL-7000
6605	4822 130 80137	1N5406
6605	9322 161 81682	1N5406L-7024
6606	4822 130 80137	1N5406
6606	9322 161 81682	1N5406L-7024
6608	4822 130 11397	BAS316
6609	4822 130 32152	BZT03-C18
6611	3139 120 52021	BYV29X-500
6611	4822 130 83796	BYV29F-500
6640	9339 680 20115	PRLL5819
6641	4822 130 11397	BAS316
6642	9339 680 20115	PRLL5819
6643	4822 130 11152	UDZ18B
6651	9339 680 20115	PRLL5819
6652	9339 680 20115	PRLL5819
6653	4822 130 11666	BZX284-C8V2
6653	9322 129 39685	BZM55-C8V2
6654	4822 130 11397	BAS316
6660	9322 128 65685	RS1G
6661	9322 128 65685	RS1G
6663	4822 130 11397	BAS316
6665	9339 680 20115	PRLL5819
6700	4822 130 11152	UDZ18B
6703	9339 680 20115	PRLL5819
6706	4822 130 11152	UDZ18B
6709	9339 680 20115	PRLL5819

7001	9322 108 21682	MC34067P
7002▲	9322 149 04682	TCET1102
7003▲	9322 149 04682	TCET1102
7005	9322 164 01687	STU16NB50I
7005	9322 192 18687	STP15NK50ZFP
7006	9322 164 01687	STU16NB50I
7006	9322 192 18687	STP15NK50ZFP
7007	4822 130 40854	BC327
7008	4822 130 40854	BC327
7009	3198 010 42310	BC847BW
7009	9340 217 70115	BC847BW
7010	4822 209 81397	TL431CLPST
7011	4822 209 81397	TL431CLPST
7017	3198 010 42320	BC857BW
7017	5322 130 42756	BC857C
7017	9340 218 50115	BC857BW
7018	3198 010 42310	BC847BW
7018	9340 217 70115	BC847BW
7020	9335 671 30126	BC517
7021	9335 671 30126	BC517
7022	3198 010 42310	BC847BW
7022	9340 217 70115	BC847BW
7042	4822 130 41646	BF423
7050	9340 557 17118	PSMN035-150B
7052	9322 165 02668	IRFR18N15D
7058	3198 010 42310	BC847BW
7058	9340 217 70115	BC847BW
7059	4822 130 41646	BF423
7059	4822 130 41782	BF422
7090	3198 010 42320	BC857BW
7090	5322 130 42756	BC857C
7090	9340 218 50115	BC857BW
7091	3198 010 42320	BC857BW
7091	5322 130 42756	BC857C
7091	9340 218 50115	BC857BW
7092	4822 130 41246	BC327-25
7093	4822 209 80591	LM317T
7110	4822 130 41646	BF423
7111	4822 130 41646	BF423
7112	9352 673 56112	TEA1507P/N1
7117	9340 557 17118	PSMN035-150B
7120	9322 149 04682	TCET1102
7121	4822 209 81397	TL431CLPST
7130	4822 209 81397	TL431CLPST
7134	3198 010 42310	BC847BW
7134	9340 217 70115	BC847BW
7135	3198 010 42310	BC847BW
7140	9340 425 10115	BC857BS
7142	4822 130 41646	BF423
7200	4822 130 63316	BSN304
7202	5322 130 63289	BSN20
7202	9965 000 04199	BSN20
7212	9352 673 56112	TEA1507P/N1
7217	9340 557 18127	PSMN070-200P
7220	9322 149 04682	TCET1102
7227	4822 209 81397	TL431CLPST
7230	4822 209 12334	L4940V85
7260	9322 166 31682	IC L4973V3.3
7304	4822 209 81397	TL431CLPST
7308	4822 209 60177	LM339D
7326	3198 010 42310	BC847BW
7326	9340 217 70115	BC847BW
7327	3198 010 42310	BC847BW
7327	9340 217 70115	BC847BW
7330	4822 209 60177	LM339D
7341	3198 010 42320	BC857BW
7341	5322 130 42756	BC857C
7341	9340 218 50115	BC857BW
7348	3198 010 42310	BC847BW
7348	9340 217 70115	BC847BW
7351	3198 010 42310	BC847BW
7351	9340 217 70115	BC847BW
7352	3198 010 42310	BC847BW
7352	9340 217 70115	BC847BW
7362	3198 010 42310	BC847BW
7362	9340 217 70115	BC847BW
7366	4822 209 63709	LM324D
7370	5322 209 33172	PCF8574AT
7371	4822 130 40959	BC547B
7375	3198 010 42310	BC847BW
7375	9340 217 70115	BC847BW
7376	3198 010 42310	BC847BW
7376	9340 217 70115	BC847BW
7389	3198 010 42320	BC857BW
7389	5322 130 42756	BC857C
7389	9340 218 50115	BC857BW
7391	3198 010 42320	BC857BW
7391	5322 130 42756	BC857C
7391	9340 218 50115	BC857BW
7393	3198 010 42310	BC847BW
7393	9340 217 70115	BC847BW
7460	4822 130 42804	BC817-25
7460	9340 219 30115	BC817-25W
7465	3198 010 42320	BC857BW
7465	5322 130 42756	BC857C
7465	9340 218 50115	BC857BW
7470	4822 130 42804	BC817-25
7470	9340 219 30115	BC817-25W
7500	9322 037 99682	TNY256P
7501▲	9322 149 04682	TCET1102
7502	4822 209 14933	TL431IZ
7502	4822 209 81397	TL431CLPST
7530	9322 157 95668	STD16NE06L
7531	9322 157 95668	STD16NE06L
7540	4822 209 80817	L7805CV
7608	5322 130 44593	BC369
7610	9322 130 47687	STY34NB50
7640	4822 130 63316	BSN304
7641	4822 130 40981	BC337-25
7650	9322 130 69682	IC MC33368P
7654	3198 010 42320	BC857BW
7654	5322 130 42756	BC857C
7654	9340 218 50115	BC857BW
7660	5322 209 71759	MCT7815CT
7700	9322 115 29668	SI9433DY
7701	3198 010 42310	BC847BW
7701	9340 217 70115	BC847BW
7706	9322 115 29668	SI9433DY
7707	3198 010 42310	BC847BW
7707	9340 217 70115	BC847BW

Power Supply Panel FM33 AA [P]

Various

0008	4822 265 11253	Fuse holder 2p
0010	3122 421 60171	Spring
0011	3122 421 60171	Spring
0015	4822 695 00005	Insulating plate
0016	3122 121 67211	Clip max247
0017	3122 121 67201	Clip large
0020	3122 121 67191	Clip small
0021	3122 121 67191	Clip small
0022	3122 121 67191	Clip small
0023	3122 121 67191	Clip small
0024	3122 121 67191	Clip small
0025	3122 121 67191	Clip small
0206	3104 308 78231	Transistor cooling clip
0302	2422 025 10769	Connector 9P
0305	2422 025 10772	Connector 12P m
0306	2422 025 08149	Connector 6p m
0307	2422 025 17759	Connector 20P f
0308	4822 265 20723	Connector 2p m
0319	2422 025 10668	Connector 13P m
0323	2422 025 15085	Connector 10P m
0333	2422 025 12827	Connector 9P m 3.96
0342	4822 267 10618	Connector 7P
0352	4822 267 10618	Connector 7P
1082▲	2422 086 10849	Fuse F1A 250V
1083▲	2422 086 10849	Fuse F1A 250V
1084▲	2422 086 10849	Fuse F1A 250V
1110▲	4822 071 55002	Fuse T5A 250V
1200▲	9965 000 07788	Fuse T2A 250V
1260▲	2122 662 00107	Fuse RR60-075 A
1400▲	4822 253 30467	Fuse 6.3A
1401▲	9965 000 07788	Fuse T2A 250V
1402	4822 252 60151	Sparkgap dsp501
1450▲	4822 280 10382	SDT-SS-109DM
1460▲	4822 280 10382	SDT-SS-109DM

⊣⊢

2000	2020 554 90169	470pF 20% 250V
2002	3198 030 72290	22µF 20% 35V
2003	4822 124 12056	1000µF 20% 35V
2004	2020 552 96513	100pF 1% 50% 0603
2005	2020 552 96513	100pF 1% 50% 0603
2006	3198 016 31020	1nF 10% 25V 0603
2007	2238 586 59812	100nF 20-80% 50V 0603
2008	5322 126 11583	10nF 10% 50V 0603
2009	3198 030 82280	2.2µF 20% 50V
2010	5322 126 11583	10nF 10% 50V 0603
2011	2222 375 24153	15nF 5% 1kV
2012	4822 126 11254	330pF 10% 2kV
2013	4822 126 11254	330pF 10% 2kV
2014	4822 126 13862	1.5nF 10% 2kV
2015	5322 126 11583	10nF 10% 50V 0603
2016	3198 030 82280	2.2µF 20% 50V
2017	2222 375 24153	15nF 5% 1kV
2018	2020 552 96513	100pF 1% 50% 0603
2020	2020 024 90737	3300µF 20% 100V
2021	2020 024 90737	3300µF 20% 100V
2022	4822 124 12056	1000µF 20% 35V
2023	2238 586 59812	100nF 20-80% 50V 0603
2024	5322 126 11579	3.3nF 10% 63V
2025	2222 601 55649	100nF 10% 100V 1206
2026	4822 126 14238	2.2nF 50V 0603
2027	3198 017 31530	15nF 20% 50V 0603
2028	2238 930 11541	220pF 5% 200V
2029	4822 126 13883	220pF 5% 50V
2030	2238 586 59812	100nF 20-80% 50V 0603
2031	2222 601 55649	100nF 10% 100V 1206
2032	2238 916 15641	22nF 10% 25V 0603
2033	2238 586 59812	100nF 20-80% 50V 0603
2034	4822 126 11979	27pF 5% 2KV
2035	2238 586 15623	1nF 10% 50V 0603
2036	2238 916 15641	22nF 10% 25V 0603
2038	3198 016 31020	1nF 10% 25V 0603
2040	2238 586 59812	100nF 20-80% 50V 0603
2044	2238 930 11541	220pF 5% 200V
2045	4822 126 13883	220pF 5% 50V
2047	3198 030 72290	22µF 20% 35V
2050	2238 586 59812	100nF 20-80% 50V 0603
2054	2238 606 11536	100pF 5% 100V
2055	2238 606 11547	680pF 5% 680V
2058	4822 124 40756	1µF20% 100V
2059	2238 586 59812	100nF 20-80% 50V 0603
2061	2238 586 59812	100nF 20-80% 50V 0603
2090	2020 021 91729	4.7µF 20% 35V
2111	4822 126 13883	220pF 5% 50V
2112	3198 016 31020	1nF 10% 25V 0603
2113	4822 124 12379	220µF 25V
2114	4822 126 13473	220nF 80-20% 50V
2117	2222 780 15656	330nF 10% 16V
2118	4822 126 13449	1nF 10% 2KV
2121	2020 024 90736	2200µF 20% 100V
2122	4822 121 51319	1µF 10% 63V
2123	5322 126 11579	3.3nF 10% 63V
2126	2238 586 59812	100nF 20-80% 50V 0603
2133	3198 030 72290	22µF 20% 35V
2138	4822 126 14472	1µF 10% 10V 0805
2203	2238 586 59812	100nF 20-80% 50V 0603
2205	3198 030 82280	2.2µF 20% 50V
2210	4822 124 80151	47µF 20% 16V
2211	4822 126 13883	220pF 5% 50V
2212	4822 126 13879	220nF 20% 16V
2217	2222 780 15656	330nF 10% 16V
2218	2222 375 90141	3.3nF 1.6kV 5%
2222	2020 552 94427	100pF 5% 50v 0603
2223	2020 552 94427	100pF 5% 50v 0603
2225	2020 021 91551	2200µF 20% 25V
2226	2238 586 59812	100nF 20-80% 50V 0603
2227	2020 552 94427	100pF 5% 50v 0603
2228	2022 552 05617	10µF 5% 6.3V 1206
2229	4822 124 80151	47µF 20% 16V
2230	4822 124 80151	47µF 20% 16V
2231	4822 124 80151	47µF 20% 16V
2232	2020 552 94427	100pF 5% 50v 0603
2260	2238 586 59812	100nF 20-80% 50V 0603
2261	5322 126 11578	1nF 10% 50V 0603
2262	2238 586 59812	100nF 20-80% 50V 0603
2263	5322 126 11578	1nF 10% 50V 0603
2264	2238 586 59812	100nF 20-80% 50V 0603
2265	2022 552 05618	4.7µF 10% 10V 1206
2266	4822 126 14247	1.5nF 50V 0603
2267	4822 126 13879	220nF 20% 16V

2268	2022 552 05616	4.7μF 5% 6.3V
2269	2022 552 05616	4.7μF 5% 6.3V
2270	4822 126 13193	4.7nF 10% 63V
2271	3198 017 31530	15nF 20% 50V 0603
2272	2238 586 59812	100nF 20-80% 50V 0603
2273	2238 586 59812	100nF 20-80% 50V 0603
2290	5322 126 11583	10nF 10% 50V 0603
2291	4822 126 13883	220pF 5% 50V
2292	3198 026 51020	1000μF 50V 20%
2293	4822 126 13883	220pF 5% 50V
2294	3198 026 51020	1000μF 50V 20%
2303	2020 552 96683	220nF 10% 50V
2304	3198 016 31020	1nF 10% 25V 0603
2305	2238 586 59812	100nF 20-80% 50V 0603
2306	2238 586 59812	100nF 20-80% 50V 0603
2316	2238 586 59812	100nF 20-80% 50V 0603
2322	2238 586 59812	100nF 20-80% 50V 0603
2324	2238 586 59812	100nF 20-80% 50V 0603
2343	3198 030 82280	2.2μF 20% 50V
2350	4822 124 12095	100μF 20% 16V
2352	2238 586 59812	100nF 20-80% 50V 0603
2364	2238 586 59812	100nF 20-80% 50V 0603
2366	4822 126 14585	100nF 10% 50V
2369	4822 126 14585	100nF 10% 50V
2370	2238 586 59812	100nF 20-80% 50V 0603
2371	2238 586 59812	100nF 20-80% 50V 0603
2372	2238 586 59812	100nF 20-80% 50V 0603
2373	2238 586 59812	100nF 20-80% 50V 0603
2374	2238 586 59812	100nF 20-80% 50V 0603
2375	2238 586 59812	100nF 20-80% 50V 0603
2376	2238 586 59812	100nF 20-80% 50V 0603
2380	2238 586 59812	100nF 20-80% 50V 0603
2381	2238 586 59812	100nF 20-80% 50V 0603
2385	3198 017 41050	1μF 10V 0603
2393	2238 586 59812	100nF 20-80% 50V 0603
2396	2020 552 96683	220nF 10% 50V
2400	2222 338 22474	470nF 20% 275V
2401	2222 338 22474	470nF 20% 275V
2404	4822 126 14525	47pF 5% 1kV
2405	2020 554 90169	470pF 20% 250V
2406	4822 126 14525	47pF 5% 1kV
2407	2020 554 90169	470pF 20% 250V
2410	2222 338 22474	470nF 20% 275V
2412	2020 554 90169	470pF 20% 250V
2465	4822 124 12095	100μF 20% 16V
2503	2020 024 90708	47μF 400V 20%
2504	5322 126 11578	1nF 10% 50V 0603
2505	4822 124 12056	1000μF 20% 35V
2507	2020 552 94427	100pF 5% 50v 0603
2508	4822 124 12095	100μF 20% 16V
2509	2020 552 94427	100pF 5% 50v 0603
2510	2020 021 91506	1000μF 20% 16V
2511	2238 586 59812	100nF 20-80% 50V 0603
2512	2238 586 59812	100nF 20-80% 50V 0603
2513	2238 586 59812	100nF 20-80% 50V 0603
2530	2022 552 05636	10μF 10% 16V 1210
2532	4822 124 12095	100μF 20% 16V
2533	4822 124 12095	100μF 20% 16V
2540	4822 124 12095	100μF 20% 16V
2541	4822 124 12095	100μF 20% 16V
2600	4822 122 33799	1nF 10% 1kV
2601	4822 122 33799	1nF 10% 1kV
2605	2222 479 90086	1μF 400V 5%
2608	3198 016 31020	1nF 10% 25V 0603
2610	4822 121 70584	1,8nF 5% 2KV
2611	2222 375 90276	220pF 5% 2kV
2612	5322 126 11578	1nF 10% 50V 0603
2613	5322 126 11578	1nF 10% 50V 0603
2616	4822 124 12415	220μF 20% 400V
2617	4822 124 12415	220μF 20% 400V
2640	4822 126 13881	470pF 5% 50V
2642	3198 016 31020	1nF 10% 25V 0603
2651	5322 126 11583	10nF 10% 50V 0603
2653	4822 126 14241	330pF 50V 0603
2654	4822 124 80151	47μF 20% 16V
2655	4822 126 14472	1μF 10% 10V 0805
2656	2238 586 59812	100nF 20-80% 50V 0603
2660	4822 126 13881	470pF 5% 50V
2661	3198 016 31020	1nF 10% 25V 0603
2662	4822 124 80061	1000μF 20% 25V
2663	4822 124 40255	100μF 20% 63V
2664	4822 124 40255	100μF 20% 63V
2665	4822 126 13881	470pF 5% 50V
2666	4822 126 13193	4.7nF 10% 63V
2670	2238 586 59812	100nF 20-80% 50V 0603
2671	2238 586 59812	100nF 20-80% 50V 0603
2672	2238 586 59812	100nF 20-80% 50V 0603
2673	2022 554 04102	4.7nF 10% 500V 1210
2674	2022 554 04103	10nF 10% 500V 1210
2675	2022 554 04103	10nF 10% 500V 1210

3003	4822 117 13632	100kΩ 1% 0603 0.62W
3004	4822 051 30153	15kΩ 5% 0.062W
3005	4822 051 30333	33kΩ 5% 0.062W
3006	4822 051 30103	10kΩ 5% 0.062W
3007	4822 051 30472	4.7kΩ 5% 0.062W
3008	4822 051 30102	1kΩ 5% 0.062W
3009	4822 051 30102	1kΩ 5% 0.062W
3010	4822 051 30153	15kΩ 5% 0.062W
3011	4822 051 30561	560Ω 5% 0.062W
3012	4822 051 30472	4.7kΩ 5% 0.062W
3013	4822 051 30103	10kΩ 5% 0.062W
3014	4822 116 52191	33Ω 5% 0.5W
3015	4822 116 52176	10Ω 5% 0.5W
3016	4822 051 30102	1kΩ 5% 0.062W
3017	4822 116 52191	33Ω 5% 0.5W
3018	4822 116 52176	10Ω 5% 0.5W
3019	4822 051 30102	1kΩ 5% 0.062W
3020	4822 051 30563	56kΩ 5% 0.062W
3021	4822 053 11688	6.8Ω 5% 2W
3022	4822 051 30331	330Ω 5% 0.062W
3023	4822 117 12925	47kΩ 1% 0.063W 0603
3024	2322 734 67503	75kΩ 1% 0.062W 0805
3025	5322 117 13046	1.8kΩ 1% 0.063W 0603
3027	4822 117 12925	47kΩ 1% 0.063W 0603
3028	4822 117 10362	7.5kΩ 1% 0,1W
3029	4822 051 30102	1kΩ 5% 0.062W
3030	4822 051 30183	18kΩ 5% 0.062W
3031	2322 704 61103	11kΩ 1% 0603
3032	2322 704 61103	11kΩ 1% 0603
3033	4822 051 30222	2.2kΩ 5% 0.062W
3034	4822 051 30221	220Ω 5% 0.062W
3037	4822 051 30103	10kΩ 5% 0.062W
3038	4822 117 13632	100kΩ 1% 0603 0.62W
3039	4822 051 30105	1MΩ 5% 0.062W
3040	4822 117 10837	100kΩ 1% 0.1W
3041	4822 051 30333	33kΩ 5% 0.062W
3042	4822 051 30471	470Ω 5% 0.062W
3043	4822 051 30472	4.7kΩ 5% 0.062W
3044	4822 051 30102	1kΩ 5% 0.062W
3045	4822 051 30102	1kΩ 5% 0.062W
3046	4822 053 20565	5.6MΩ 5% 0.25W
3047	4822 051 30154	150kΩ 5% 0.062W
3048	4822 051 30472	4.7kΩ 5% 0.062W
3049	4822 051 30123	12kΩ 5% 0.062W
3050	4822 052 10398	3.9Ω 5% 0,33W
3051	4822 051 20399	39Ω 5% 0.1W
3053	2322 662 93131	10Ω PTC
3054	4822 117 10833	10kΩ 1% 0.1W
3056	4822 051 30331	330Ω 5% 0.062W
3057	4822 051 30101	100Ω 5% 0.062W
3058	4822 051 20105	1MΩ 5% 0.1W
3062	4822 051 30102	1kΩ 5% 0.062W
3064	4822 051 30103	10kΩ 5% 0.062W
3065	4822 051 30102	1kΩ 5% 0.062W
3066	4822 051 30103	10kΩ 5% 0.062W
3067	4822 051 30153	15kΩ 5% 0.062W
3070	4822 051 30103	10kΩ 5% 0.062W
3071	4822 117 12925	47kΩ 1% 0.063W 0603
3075	4822 051 20105	1MΩ 5% 0.1W
3076	4822 117 13632	100kΩ 1% 0603 0.62W
3077	4822 051 20105	1MΩ 5% 0.1W
3078	4822 117 13632	100kΩ 1% 0603 0.62W
3080	4822 051 30101	100Ω 5% 0.062W
3081	4822 051 30222	2.2kΩ 5% 0.062W
3083	4822 051 10102	1kΩ 2% 0.25W
3084	4822 051 30103	10kΩ 5% 0.062W
3085	4822 117 12925	47kΩ 1% 0.063W 0603
3086	4822 117 12925	47kΩ 1% 0.063W 0603
3087	4822 117 12925	47kΩ 1% 0.063W 0603
3088	4822 117 12925	47kΩ 1% 0.063W 0603
3090	4822 051 30101	100Ω 5% 0.062W
3091	4822 051 30102	1kΩ 5% 0.062W
3092	4822 051 30471	470Ω 5% 0.062W
3093	4822 051 30102	1kΩ 5% 0.062W
3095	4822 051 30471	470Ω 5% 0.062W
3096	4822 051 30562	5.6kΩ 5% 0.063W 0603
3097	4822 117 12968	820Ω 5% 0.62W
3106	4822 117 12955	2.7kΩ 1% 0.1W 0805
3107	4822 117 12955	2.7kΩ 1% 0.1W 0805
3108	4822 117 12955	2.7kΩ 1% 0.1W 0805
3109	4822 117 12955	2.7kΩ 1% 0.1W 0805
3110	4822 051 30102	1kΩ 5% 0.062W
3112	4822 051 30102	1kΩ 5% 0.062W
3113	4822 051 30474	470kΩ 5% 0.062W
3114	4822 051 20564	560kΩ 5% 0.1W
3115	4822 117 12891	220kΩ 1% 0.063W 0603
3116	4822 051 30102	1kΩ 5% 0.062W
3117	4822 051 30103	10kΩ 5% 0.062W
3118	2122 118 06084	0.051Ω 5% 1W 2512
3120	4822 117 12903	1.8kΩ 1% 0.063W 0603

3121	4822 117 12925	47kΩ 1% 0.063W 0603
3122	2322 734 67503	75kΩ 1% 0.062W 0805
3123	4822 117 10965	18kΩ 1% 0.1W
3124	2322 704 67502	7.5K 1% 0,5W
3125	2322 704 67502	7.5K 1% 0,5W
3126	5322 117 13037	2.2kΩ 0.063W 0603
3128	4822 051 30333	33kΩ 5% 0.062W
3130	4822 051 30102	1kΩ 5% 0.062W
3131	2322 704 61103	11kΩ 1% 0603
3132	4822 051 30221	220Ω 5% 0.062W
3133	4822 051 30101	100Ω 5% 0.062W
3134	4822 051 30331	330Ω 5% 0.062W
3135	4822 117 12925	47kΩ 1% 0.063W 0603
3136	4822 117 12925	47kΩ 1% 0.063W 0603
3138	4822 117 11503	220Ω 1% 0.1W
3139	4822 117 11503	220Ω 1% 0.1W
3140	2322 734 67503	75kΩ 1% 0.062W 0805
3141	2322 734 67503	75kΩ 1% 0.062W 0805
3142	5322 117 12487	1kΩ 1% 0.125W
3143	4822 053 11472	4kΩ 5% 2W
3145	2322 763 65107	0.51Ω 1% 1W 2512
3146	2322 763 65107	0.51Ω 1% 1W 2512
3147	2322 704 61103	11kΩ 1% 0603
3200	2322 730 61224	220kΩ 5% 0.062W 0805
3202	4822 051 30479	47Ω 5% 0.062W
3203	4822 051 30101	100Ω 5% 0.062W
3204	4822 117 13632	100kΩ 1% 0603 0.62W
3205	4822 117 13632	100kΩ 1% 0603 0.62W
3206	4822 117 12955	2.7kΩ 1% 0.1W 0805
3207	4822 117 12955	2.7kΩ 1% 0.1W 0805
3208	4822 117 12955	2.7kΩ 1% 0.1W 0805
3209	4822 117 12955	2.7kΩ 1% 0.1W 0805
3212	4822 051 30102	1kΩ 5% 0.062W
3213	4822 051 20394	390kΩ 5% 0.1W
3214	4822 117 13632	100kΩ 1% 0603 0.62W
3216	4822 051 30102	1kΩ 5% 0.062W
3217	4822 051 30103	10kΩ 5% 0.062W
3218	2122 118 06084	0.051Ω 5% 1W 2512
3224	5322 117 13028	12kΩ 1% 0.063W 0603
3225	2322 704 61103	11kΩ 1% 0603
3226	4822 051 30103	10kΩ 5% 0.062W
3228	4822 051 30151	150Ω 5% 0.062W
3260	4822 051 30109	10Ω 5% 0.062W
3261	4822 051 30681	680Ω 5% 0.062W
3263	4822 117 12925	47kΩ 1% 0.063W 0603
3264	4822 117 12925	47kΩ 1% 0.063W 0603
3266	4822 051 30272	2.7kΩ 5% 0.062W
3267	5322 117 13062	390Ω 1% 0.063W 0603
3268	4822 051 30103	10kΩ 5% 0.062W
3270	4822 051 30681	680Ω 5% 0.062W
3271	4822 051 30102	1kΩ 5% 0.062W
3272	5322 117 13018	1kΩ 1% 0.063W 0603
3292	4822 051 30561	560Ω 5% 0.062W
3300	4822 117 13579	220kΩ 1% 0.1W 0805
3301	4822 117 13579	220kΩ 1% 0.1W 0805
3302	2312 916 71004	100kΩ 1%
3303	2312 916 71004	100kΩ 1%
3304	4822 051 30102	1kΩ 5% 0.062W
3305	2312 916 76202	6.2kΩ 1%
3306	2322 704 61103	11kΩ 1% 0603
3307	5322 117 13028	12kΩ 1% 0.063W 0603
3308	4822 051 30102	1kΩ 5% 0.062W
3310	4822 051 30472	4.7kΩ 5% 0.062W
3311	4822 117 13579	220kΩ 1% 0.1W 0805
3312	4822 051 30102	1kΩ 5% 0.062W
3313	2322 704 67502	7.5K 1% 0,5W
3316	2312 916 77502	7.5kΩ 1%
3317	2322 704 67502	7.5K 1% 0,5W
3319	4822 051 30472	4.7kΩ 5% 0.062W
3320	2322 704 61103	11kΩ 1% 0603
3321	4822 051 30102	1kΩ 5% 0.062W
3322	5322 117 13042	3.9kΩ 1% 0.063W 0603
3323	4822 117 10833	10kΩ 1% 0.1W
3324	4822 051 30102	1kΩ 5% 0.062W
3325	4822 051 30471	470Ω 5% 0.062W
3326	4822 051 30472	4.7kΩ 5% 0.062W
3327	4822 051 30103	10kΩ 5% 0.062W
3328	4822 051 30103	10kΩ 5% 0.062W
3331	4822 051 30472	4.7kΩ 5% 0.062W
3332	4822 117 11144	3.9kΩ 1% 0.1W
3333	4822 051 30102	1kΩ 5% 0.062W
3334	4822 117 12955	2.7kΩ 1% 0.1W 0805
3335	4822 116 83933	15kΩ 1% 0.1W
3339	4822 051 30472	4.7kΩ 5% 0.062W
3340	4822 051 30102	1kΩ 5% 0.062W
3341	4822 051 30103	10kΩ 5% 0.062W
3342	4822 051 30103	10kΩ 5% 0.062W
3343	4822 051 30102	1kΩ 5% 0.062W
3344	4822 051 30102	1kΩ 5% 0.062W
3345	4822 051 30472	4.7kΩ 5% 0.062W
3347	4822 051 30331	330Ω 5% 0.062W
3348	4822 051 30331	330Ω 5% 0.062W
3349	4822 051 30102	1kΩ 5% 0.062W
3350	4822 051 30472	4.7kΩ 5% 0.062W

3351	4822 051 30103	10kΩ 5% 0.062W
3352	4822 051 30103	10kΩ 5% 0.062W
3353	4822 051 30103	10kΩ 5% 0.062W
3354	4822 051 30472	4.7kΩ 5% 0.062W
3358	4822 051 30222	2.2kΩ 5% 0.062W
3359	4822 051 30472	4.7kΩ 5% 0.062W
3360	4822 117 11817	1.2kΩ 1% 1/16W
3361	4822 051 30472	4.7kΩ 5% 0.062W
3363	4822 051 30102	1kΩ 5% 0.062W
3364	4822 051 30102	1kΩ 5% 0.062W
3368	4822 051 30101	100Ω 5% 0.062W
3369	4822 051 30101	100Ω 5% 0.062W
3370	4822 051 30101	100Ω 5% 0.062W
3371	4822 051 30101	100Ω 5% 0.062W
3372	9337 224 50116	Temp sens. KTY81-210
3373	4822 051 30472	4.7kΩ 5% 0.062W
3374	4822 117 12925	47kΩ 1% 0.063W 0603
3376	4822 117 12925	47kΩ 1% 0.063W 0603
3377	4822 051 30472	4.7kΩ 5% 0.062W
3378	4822 051 30103	10kΩ 5% 0.062W
3380	4822 117 12925	47kΩ 1% 0.063W 0603
3381	4822 117 12925	47kΩ 1% 0.063W 0603
3382	5322 117 13039	222kΩ 1% 0.063W 0603
3385	4822 117 13632	100kΩ 1% 0603 0.62W
3386	4822 117 13632	100kΩ 1% 0603 0.62W
3387	4822 051 30471	470Ω 5% 0.062W
3388	4822 051 30102	1kΩ 5% 0.062W
3389	4822 051 30102	1kΩ 5% 0.062W
3390	4822 051 30103	10kΩ 5% 0.062W
3391	4822 051 30103	10kΩ 5% 0.062W
3392	4822 051 30102	1kΩ 5% 0.062W
3393	4822 051 30103	10kΩ 5% 0.062W
3394	4822 051 30102	1kΩ 5% 0.062W
3395	4822 051 30103	10kΩ 5% 0.062W
3396	2312 916 71004	100kΩ 1%
3397	2312 916 71004	100kΩ 1%
3400▲	2322 595 90021	VDR 1mA/495V 850V
3401	4822 117 10118	1MΩ 5% 0,5W
3404	4822 116 83872	220Ω 5% 0.5W
3450	2322 662 93131	10Ω PTC
3451	2322 662 93131	10Ω PTC
3452	2122 612 00051	NTC 1Ω 20%
3453	2122 612 00051	NTC 1Ω 20%
3460	4822 051 30472	4.7kΩ 5% 0.062W
3461	4822 051 30103	10kΩ 5% 0.062W
3463	4822 051 30103	10kΩ 5% 0.062W
3465	4822 051 30103	10kΩ 5% 0.062W
3467	4822 051 30103	10kΩ 5% 0.062W
3469	4822 051 30472	4.7kΩ 5% 0.062W
3470	4822 051 30103	10kΩ 5% 0.062W
3501	4822 051 30101	100Ω 5% 0.062W
3502	4822 051 30471	470Ω 5% 0.062W
3503	5322 117 13026	4.7kΩ 1% 0.063W 0603
3504	5322 117 13024	33kΩ 1% 0.063W 0603
3505	4822 117 11139	1.5kΩ 1% 0.1W
3506	2322 662 93131	10Ω PTC
3508	2322 194 63109	10Ω 5% 2W
3510	4822 051 20684	680kΩ 5% 0.1W
3511	4822 051 20684	680kΩ 5% 0.1W
3512	4822 051 20684	680kΩ 5% 0.1W
3520	4822 051 30109	10Ω 5% 0.062W
3530	4822 117 13632	100kΩ 1% 0603 0.62W
3603	4822 051 20474	470kΩ 5% 0.1W
3604	4822 051 20474	470kΩ 5% 0.1W
3605	4822 051 20474	470kΩ 5% 0.1W
3608	4822 116 52179	12Ω 5% 0,5W
3610	5322 116 53564	3.3Ω 5% 0.5W
3611	4822 050 11002	1kΩ 1% 0.4W
3614	2120 106 90565	0.1Ω 5% 1W
3615	2120 106 90565	0.1Ω 5% 1W
3639	4822 051 30102	1kΩ 5% 0.062W
3640	4822 051 30331	330Ω 5% 0.062W
3641	4822 051 30471	470Ω 5% 0.062W
3642	4822 051 30101	100Ω 5% 0.062W
3651	4822 051 30103	10kΩ 5% 0.062W
3652	4822 051 30105	1MΩ 5% 0.062W
3654	4822 051 30103	10kΩ 5% 0.062W
3655	4822 051 30102	1kΩ 5% 0.062W
3660	4822 051 20391	390Ω 5% 0.1W
3661	4822 051 20391	390Ω 5% 0.1W
3663	4822 052 10108	1Ω 5% 0.33W
3664	2322 704 62404	240kΩ 1% 0603
3665	4822 051 30103	10kΩ 5% 0.062W
3666	4822 051 30101	100Ω 5% 0.062W
3667	4822 051 30103	10kΩ 5% 0.062W
3668	4822 052 11102	1kΩ 5% 0,5W
3671	2322 704 61103	11kΩ 1% 0603
3673	4822 052 11102	1kΩ 5% 0,5W
3675	4822 117 12917	1Ω 5% 0.062W 0603
3676	5322 117 13026	4.7kΩ 1% 0.063W 0603
3677	5322 117 13029	47kΩ 1% 0.063W 0603
3678	4822 117 12925	47kΩ 1% 0.063W 0603
3680	2322 734 62704	270kΩ 1% 0.1W 0805
3681	2322 734 62704	270kΩ 1% 0.1W 0805
3682	2322 734 62704	270kΩ 1% 0.1W 0805
3683	4822 051 20334	330kΩ 5% 0,1W
3684	4822 051 20334	330kΩ 5% 0,1W
3685	4822 051 20334	330kΩ 5% 0,1W
3999	4822 051 30102	1kΩ 5% 0.062W
4300	4822 051 30008	Jumper 0603

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5001	2422 531 02444	Transformer S13932-04Y
5002▲	3104 308 20811	Trans. BS42236-00B
5004▲	3104 308 20811	Trans. BS42236-00B
5121	3104 308 20771	BD21232-00
5220▲	3104 308 20911	Trans. BS29238-00
5225	2422 535 95273	6.8μH 20%
5229	4822 157 71461	22μH 10%
5267▲	2422 535 94603	22μH 10%
5290▲	3104 308 20761	Trans. BD 15230-00B
5291	4822 157 11737	22μH 10%
5292	4822 157 11737	22μH 10%
5293	4822 157 11737	22μH 10%
5294	4822 157 11499	BLM11P600SPT
5401▲	3104 308 20921	Filter DMF2807 B
5402▲	3104 308 20921	Filter DMF2807 B
5404▲	3104 308 20921	Filter DMF2807 B
5500▲	3104 308 20781	Transformer CE165T
5505	4822 157 11737	22μH 10%
5600▲	3104 308 20821	Coil BS42228-00 B
5612	4822 157 11411	Bead 83Ω at 100MHz
5660	4822 157 51192	220MH

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6004	4822 130 11397	BAS316
6005	4822 130 11397	BAS316
6007	4822 130 11397	BAS316
6008	4822 130 11397	BAS316
6009	4822 130 11397	BAS316
6010	4822 130 11397	BAS316
6011	4822 130 11397	BAS316
6018	4822 130 11397	BAS316
6019	4822 130 11397	BAS316
6021	9322 128 70685	SMSS14
6022	4822 130 11397	BAS316
6023	4822 130 11397	BAS316
6027	4822 130 11397	BAS316
6028	4822 130 11397	BAS316
6031	3198 020 55680	BZX384-C5V6
6032	3198 020 55680	BZX384-C5V6
6033	9322 150 18685	BZX384-C47
6034	4822 130 11397	BAS316
6035	4822 130 11397	BAS316
6042	9322 150 18685	BZX384-C47
6044	9322 167 08687	STTH2003CF
6045	9322 128 70685	SMSS14
6047	9322 128 65685	RS1G
6050	4822 130 11152	UDZ18B
6054	9340 553 52115	BAS321
6055	9340 553 52115	BAS321
6061	4822 130 11152	UDZ18B
6075▲	9340 292 80135	BZG03-C270
6077▲	9340 292 80135	BZG03-C270
6086	4822 130 11397	BAS316
6095	4822 130 11397	BAS316
6111	4822 130 11397	BAS316
6112	4822 130 11397	BAS316
6113	4822 130 11397	BAS316
6117	4822 130 11152	UDZ18B
6120	4822 130 11596	BYW29EX-200
6123	4822 130 11397	BAS316
6133	4822 130 11397	BAS316
6202	4822 130 11397	BAS316
6204	3198 020 55680	BZX384-C5V6
6205	4822 130 11152	UDZ18B
6206	4822 130 11397	BAS316
6211	9322 128 65685	RS1G
6213	4822 130 11397	BAS316
6216	4822 130 11152	UDZ18B
6225	9322 173 47687	STPS20L40CFP
6230	9322 128 70685	SMSS14
6261	4822 130 11397	BAS316
6269	9339 680 20115	PRLL5819
6291	4822 130 81274	MBR745
6292	4822 130 81274	MBR745
6312	4822 130 11528	1PS76SB10
6313	4822 130 11528	1PS76SB10
6321	4822 130 11528	1PS76SB10
6322	4822 130 11528	1PS76SB10
6325	4822 130 11416	PDZ6.8B
6333	4822 130 11528	1PS76SB10
6334	4822 130 11528	1PS76SB10
6340	4822 130 11528	1PS76SB10
6341	4822 130 11528	1PS76SB10
6344	4822 130 10838	UDZ3.3B
6347	4822 130 10654	BAT254
6348▲	9322 192 17685	P0102BL
6362	4822 130 11397	BAS316
6364	4822 130 11397	BAS316
6365	4822 130 11397	BAS316
6375	4822 130 11397	BAS316
6376	4822 130 11397	BAS316
6378	4822 130 11528	1PS76SB10
6390	4822 130 11397	BAS316
6460	4822 130 11397	BAS316
6461	4822 130 11397	BAS316
6470	4822 130 11397	BAS316
6471	4822 130 11397	BAS316
6501▲	9340 292 80135	BZG03-C270
6502▲	9340 292 80135	BZG03-C270
6503	9322 128 65685	RS1G
6504	9322 128 65685	RS1G
6505	9322 180 55668	MBRS340
6510	9322 099 61685	BYG10J
6511	9322 099 61685	BYG10J
6512	9322 099 61685	BYG10J
6513	9322 099 61685	BYG10J
6520	4822 130 11397	BAS316
6530	4822 130 11152	UDZ18B
6531	4822 130 11152	UDZ18B
6600	9322 131 67679	GBU8JL-7000
6605	9322 192 15668	SM S3J
6606	9322 192 15668	SM S3J
6608	4822 130 11397	BAS316
6609▲	9340 289 90135	BZG03-C18
6611	3139 120 52021	BYV29X-500
6640	9339 680 20115	PRLL5819
6641	4822 130 11397	BAS316
6642	9339 680 20115	PRLL5819
6643	4822 130 11152	UDZ18B
6652	9339 680 20115	PRLL5819
6653	4822 130 10837	UDZS8.2B
6654	4822 130 11397	BAS316
6660	9322 128 65685	RS1G
6661	9322 128 65685	RS1G
6663	9339 680 20115	PRLL5819
6665	9339 680 20115	PRLL5819

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7001	9322 108 21682	MC34067P
7002▲	9322 192 38668	TCLT1002
7003▲	9322 192 38668	TCLT1002
7005	9322 192 18687	STP15NK50ZFP
7006	9322 192 18687	STP15NK50ZFP
7007	4822 130 40854	BC327
7008	4822 130 40854	BC327
7009	3198 010 42310	BC847BW
7010▲	9322 192 16685	TS2431AI
7011▲	9322 192 16685	TS2431AI
7017	3198 010 42320	BC857BW
7018	3198 010 42310	BC847BW
7020	9335 671 30126	BC517
7021	9335 671 30126	BC517
7022	3198 010 42310	BC847BW
7042▲	9340 308 50135	PMST5401
7050	9340 557 17118	PSMN035-150B
7052	9322 165 02668	IRFR18N15D
7058	3198 010 42310	BC847BW
7059▲	9340 308 60135	PMST5550
7090	3198 010 42320	BC857BW
7091	3198 010 42320	BC857BW
7092	3198 010 44350	BC807-25W
7093	4822 209 80591	LM317T
7110▲	9340 308 50135	PMST5401
7112	9352 673 56112	TEA1507P/N1
7117	9340 557 17118	PSMN035-150B
7120▲	9322 192 38668	TCLT1002
7121▲	9322 192 16685	TS2431AI
7130▲	9322 192 16685	TS2431AI
7134	3198 010 42310	BC847BW
7140	9340 425 10115	BC857BS
7142▲	9340 308 50135	PMST5401
7200	9340 565 06215	BSH114
7202	9965 000 04199	BSN20
7212	9352 673 56112	TEA1507P/N1
7217	9340 557 18127	PSMN070-200P
7220▲	9322 192 38668	TCLT1002
7227▲	9322 192 16685	TS2431AI
7230▲	9322 193 05668	L4940D2T85
7260▲	9322 182 77668	L6910
7262	9322 160 70668	SI4936ADY
7263	3198 010 42310	BC847BW
7304▲	9322 192 16685	TS2431AI
7308	4822 209 60177	LM339D
7326	3198 010 42310	BC847BW

7327	3198 010 42310	BC847BW
7330	4822 209 60177	LM339D
7341	3198 010 42320	BC857BW
7348	3198 010 42310	BC847BW
7351	3198 010 42310	BC847BW
7352	3198 010 42310	BC847BW
7362	3198 010 42310	BC847BW
7366	5322 209 82941	LM358D
7370	5322 209 33172	PCF8574AT
7372⚠	9352 697 76118	LM75ADP
7375	3198 010 42310	BC847BW
7376	3198 010 42310	BC847BW
7389	3198 010 42320	BC857BW
7391	3198 010 42320	BC857BW
7393	3198 010 42310	BC847BW
7460	9340 219 30115	BC817-25W
7465	3198 010 42320	BC857BW
7470	9340 219 30115	BC817-25W
7500	9322 037 99682	TNY256P
7501⚠	9322 192 38668	TCLT1002
7502⚠	9322 192 16685	TS2431AI
7530	9322 160 70668	SI4936ADY
7540	9322 156 14668	LD1117D50
7608	5322 130 44593	BC369
7610	9322 130 47687	STY34NB50
7640	9965 000 04199	BSN20
7641	9340 219 30115	BC817-25W
7650	9322 130 69682	IC MC33368P
7654	3198 010 42320	BC857BW
7661	5322 209 90529	MC34063AD

Power Supply Panel FM24 AB [P]

Various

0006	4822 265 11253	Fuse holder 2p
0008	4822 265 11253	Fuse holder 2p
0010	3122 421 60171	Spring
0011	3122 421 60171	Spring
0015	4822 695 00005	Insulating plate
0016	3122 121 67211	Clip max247
0017	3122 121 67201	Clip large
0018	3122 121 67201	Clip large
0020	3122 121 67191	Clip small
0021	3122 121 67191	Clip small
0022	3122 121 67191	Clip small
0023	3122 121 67191	Clip small
0024	3122 121 67191	Clip small
0025	3122 121 67191	Clip small
0027	3122 121 67191	Clip small
0028	4822 701 13088	Transistor clamp
0029	4822 701 13088	Transistor clamp
0040	2413 015 00065	Cable tie BT18R/4B
0041	3122 124 36011	Thermo foam
0205	3104 308 78231	Transistor cooling clip
0206	3104 308 78231	Transistor cooling clip
0302	2422 025 10769	Connector 9P
0305	2422 025 10772	Connector 12P m
0306	2422 025 08149	Connector 6p m
0307	2422 025 17154	Connector 20P f
0307	2422 025 17759	Connector 20P f
0308	4822 265 20723	Connector 2p m
0319	2422 025 10668	Connector 13P m
0323	2422 025 15085	Connector 10P m
0333	2422 025 12827	Connector 9P m 3.96
0342	4822 267 10618	Connector 7P
0352	4822 267 10618	Connector 7P
0389	4822 267 10735	Connector 3p m
0390	4822 267 10735	Connector 3p m
0392	2422 025 09406	Connector 4p
1004⚠	4822 070 33152	Fuse 3.15A
1005⚠	4822 071 55002	Fuse T5A 250V
1041⚠	4822 071 55002	Fuse T5A 250V
1042⚠	4822 071 55002	Fuse T5A 250V
1043⚠	4822 071 55002	Fuse T5A 250V
1044⚠	4822 071 55002	Fuse T5A 250V
1045⚠	4822 071 55002	Fuse T5A 250V
1084⚠	2422 086 10849	Fuse F1A 250V
1110⚠	4822 071 55002	Fuse T5A 250V
1200⚠	9965 000 07788	Fuse T2A 250V
1260⚠	2122 662 00107	Fuse RR60-075 A
1400⚠	4822 253 30467	Fuse 6.3A
1401⚠	9965 000 07788	Fuse T2A 250V
1402⚠	4822 252 60151	Sparkgap dsp501
1450⚠	4822 280 10382	SDT-SS-109DM
1460⚠	4822 280 10382	SDT-SS-109DM

⊣⊢

2000	2020 554 90148	470pF 20% 250V
2001	2222 151 90062	47µF 20% 450V
2002	4822 124 40207	100µF 20% 25V
2003	4822 124 12056	1000µF 20% 35V
2004	2222 464 90017	200pF 2% 630V
2005	4822 121 51288	100pF 630V
2006	3198 016 31020	1nF 10% 25V 0603
2007	2238 586 59812	100nF 20-80% 50V 0603
2008	5322 126 11583	10nF 10% 50V 0603
2009	4822 124 22652	2.2µF 20% 50V
2010	5322 126 11583	10nF 10% 50V 0603
2011	2222 375 24153	15nF 5% 1kV
2012	4822 126 11254	330pF 10% 2kV
2013	4822 126 11254	330pF 10% 2kV
2014	4822 126 13862	1.5nF 10% 2kV
2015	5322 126 11583	10nF 10% 50V 0603
2016	3198 032 64090	2.2µF 20% 25V
2016	4822 124 22652	2.2µF 20% 50V
2017	2222 375 24153	15nF 5% 1kV
2020	2222 156 29332	3300µF 20% 100V 156
2021	2222 156 19332	3300µF20% 100V 156
2022	4822 124 12056	1000µF 20% 35V
2023	2238 586 59812	100nF 20-80% 50V 0603
2024	5322 126 11579	3.3nF 10% 63V
2025	2020 321 90041	180nF 250V 5%
2026	4822 126 14238	2.2nF 50V 0603
2027	3198 017 31530	15nF 20% 50V 0603
2028	2238 930 11541	220pF 5% 200V
2029	4822 126 13883	220pF 5% 50V
2030	2238 586 59812	100nF 20-80% 50V 0603
2032	2238 916 15641	22nF 10% 25V 0603
2032	4822 126 14494	22nF 10% 25V 0603
2033	2238 586 59812	100nF 20-80% 50V 0603
2034	4822 126 11979	27pF 5% 2KV
2035	2238 586 15623	1nF 10% 50V 0603
2036	2238 916 15641	22nF 10% 25V 0603
2036	4822 126 14494	22nF 10% 25V 0603
2038	3198 016 31020	1nF 10% 25V 0603
2040	2238 586 59812	100nF 20-80% 50V 0603
2041	2238 930 11541	220pF 5% 200V
2042	2238 930 11541	220pF 5% 200V
2043	2222 056 59222	2200µF 100V 20%
2044	2238 930 11541	220pF 5% 200V
2045	4822 126 13883	220pF 5% 50V
2046	2238 930 11541	220pF 5% 200V
2047	2238 930 11541	220pF 5% 200V
2048	2238 930 11541	220pF 5% 200V
2049	2238 930 11541	220pF 5% 200V
2050	2238 586 59812	100nF 20-80% 50V 0603
2054	2238 606 11536	100pF 5% 100V
2054	2238 930 11541	220pF 5% 200V
2055	2020 557 90731	1nF 10% 250V 0805
2055	2238 606 11547	680pF 5% 680V
2058	4822 124 40756	1µF20% 100V
2059	2238 586 59812	100nF 20-80% 50V 0603
2061	2238 586 59812	100nF 20-80% 50V 0603
2090	4822 124 40769	4.7µF 20% 100V
2110	5322 126 11583	10nF 10% 50V 0603
2111	4822 126 13883	220pF 5% 50V
2112	3198 016 31020	1nF 10% 25V 0603
2113	4822 124 12379	220µF 25V
2113	4822 124 80875	220µF 20% 25V
2114	4822 126 13473	220nF 80-20% 50V
2117	2222 780 15656	330nF 10% 16V
2118	4822 126 13449	1nF 10% 2KV
2121	2222 056 59222	2200µF 100V 20%
2122	4822 121 51319	1µF 10% 63V
2122	4822 124 40756	1µF20% 100V
2123	5322 126 11579	3.3nF 10% 63V
2126	2238 586 59812	100nF 20-80% 50V 0603
2133	3198 029 32290	22µF 20% 25V
2138	4822 124 12084	1µF 20% 50V
2138	4822 124 21913	1µF 20% 63V
2203	2238 586 59812	100nF 20-80% 50V 0603
2205	3198 032 64090	2.2µF 20% 25V
2210	4822 124 40433	47µF 20% 25V
2211	4822 126 13883	220pF 5% 50V
2212	2238 586 59812	100nF 20-80% 50V 0603
2212	4822 126 13879	220nF 20% 16V
2217	2222 780 15656	330nF 10% 16V
2218	2222 375 90141	3.3nF 1.6kV 5%
2219	2020 021 91543	47µF 20% 160V
2222	2020 552 94427	100pF 5% 50v 0603
2223	2020 552 94427	100pF 5% 50v 0603
2224	2020 021 91551	2200µF 20% 25V
2225	2020 021 91551	2200µF 20% 25V
2226	2238 586 59812	100nF 20-80% 50V 0603
2227	2020 552 94427	100pF 5% 50v 0603
2228	2020 021 91411	1000µF 20% 35V
2229	5322 126 11578	1nF 10% 50V 0603
2230	5322 121 10472	47µF
2231	5322 121 10472	47µF
2232	2020 552 94427	100pF 5% 50v 0603
2260	4822 126 14043	1µF 20% 16V
2261	2020 021 91411	1000µF 20% 35V
2262	4822 126 13473	220nF 80-20% 50V
2263	2222 861 15272	2.7nF 5% 50V 0805
2264	4822 126 13482	470nF 80-20% 16V
2265	4822 126 14241	330pF 50V 0603
2266	2238 916 15641	22nF 10% 25V 0603
2266	4822 126 14494	22nF 10% 25V 0603
2267	5322 126 10223	4.7nF 10% 63V
2268	4822 126 13473	220nF 80-20% 50V
2269	2020 021 91524	220µF 20% 25V
2270	4822 124 40433	47µF 20% 25V
2290	5322 126 11583	10nF 10% 50V 0603
2291	4822 126 13883	220pF 5% 50V
2292	2020 021 91354	1000µF 20% 50V
2293	4822 126 13883	220pF 5% 50V
2294	2020 021 91354	1000µF 20% 50V
2303	4822 121 42408	220nF 10% 50V
2304	3198 016 31020	1nF 10% 25V 0603
2305	2238 586 59812	100nF 20-80% 50V 0603
2306	2238 586 59812	100nF 20-80% 50V 0603
2316	2238 586 59812	100nF 20-80% 50V 0603
2322	2238 586 59812	100nF 20-80% 50V 0603
2324	2238 586 59812	100nF 20-80% 50V 0603
2343	4822 124 22652	2.2µF 20% 50V
2350	4822 124 40207	100µF 20% 25V
2352	2238 586 59812	100nF 20-80% 50V 0603
2364	2238 586 59812	100nF 20-80% 50V 0603
2366	2238 586 59812	100nF 20-80% 50V 0603
2370	2238 586 59812	100nF 20-80% 50V 0603
2376	2238 586 59812	100nF 20-80% 50V 0603
2380	2238 586 59812	100nF 20-80% 50V 0603
2381	2238 586 59812	100nF 20-80% 50V 0603
2385	3198 017 41050	1µF 10V 0603
2393	2238 586 59812	100nF 20-80% 50V 0603
2396	4822 121 42408	220nF 10% 50V
2400	4822 126 13589	470nF 275V
2401	4822 126 13589	470nF 275V
2404	4822 126 14525	47pF 5% 1kV
2405	2020 554 90148	470pF 20% 250V
2406	4822 126 14525	47pF 5% 1kV
2407	2020 554 90148	470pF 20% 250V
2408	2020 554 90148	470pF 20% 250V
2409	2020 554 90148	470pF 20% 250V
2410	4822 126 13589	470nF 275V
2411	2020 554 90148	470pF 20% 250V
2412	2020 554 90148	470pF 20% 250V
2465	4822 124 40207	100µF 20% 25V
2503	2222 151 90062	47µF 20% 450V
2504	5322 126 11578	1nF 10% 50V 0603
2505	2020 021 91354	1000µF 20% 50V
2507	2020 552 94427	100pF 5% 50v 0603
2508	4822 124 12032	4.7µF 20% 50V
2509	2020 552 94427	100pF 5% 50v 0603
2510	4822 124 81145	1000µF 16V 20%
2511	2238 586 59812	100nF 20-80% 50V 0603
2512	2238 586 59812	100nF 20-80% 50V 0603
2513	2238 586 59812	100nF 20-80% 50V 0603
2530	5322 124 40641	10µF 20% 100V
2532	4822 124 40207	100µF 20% 25V
2533	4822 124 40207	100µF 20% 25V
2540	4822 124 40207	100µF 20% 25V
2541	4822 124 40207	100µF 20% 25V
2600	4822 122 33799	1nF 10% 1kV
2601	4822 122 33799	1nF 10% 1kV
2605	2222 479 90086	1µF 400V 5%
2608	3198 016 31020	1nF 10% 25V 0603
2610	4822 121 70584	1,8nF 5% 2KV
2611	2222 375 90276	220pF 5% 2kV
2612	5322 126 11578	1nF 10% 50V 0603
2613	5322 126 11578	1nF 10% 50V 0603
2616	2222 057 36221	220µF 20% 400V 057
2617	2222 057 36221	220µF 20% 400V 057
2640	4822 126 13881	470pF 5% 50V
2642	3198 016 31020	1nF 10% 25V 0603
2651	5322 126 11583	10nF 10% 50V 0603
2653	4822 126 14241	330pF 50V 0603
2654	4822 124 40433	47µF 20% 25V
2655	4822 121 51319	1µF 10% 63V
2656	2238 586 59812	100nF 20-80% 50V 0603
2662	4822 124 80061	1000µF 20% 25V
2663	4822 124 40255	100µF 20% 63V
2664	4822 124 40255	100µF 20% 63V
2665	4822 126 13881	470pF 5% 50V
2666	4822 126 13193	4.7nF 10% 63V
2670	2238 586 59812	100nF 20-80% 50V 0603
2671	2238 586 59812	100nF 20-80% 50V 0603
2672	2238 586 59812	100nF 20-80% 50V 0603
2673	4822 121 43343	4.7nF 10% 400V
2674	4822 121 41664	22nF 10% 400V
2700	4822 124 80791	470µF 20% 16V
2703	4822 124 80791	470µF 20% 16V
2709	4822 124 80791	470µF 20% 16V

3003	4822 051 30124	120kΩ 5% 0.062W
3003	4822 117 12864	82kΩ 5% 0.6W
3004	4822 051 30153	15kΩ 5% 0.062W
3005	4822 051 30333	33kΩ 5% 0.062W
3006	4822 051 30103	10kΩ 5% 0.062W
3007	4822 051 30472	4.7kΩ 5% 0.062W
3008	4822 051 30102	1kΩ 5% 0.062W
3009	4822 051 30102	1kΩ 5% 0.062W
3010	4822 051 30153	15kΩ 5% 0.062W
3011	4822 051 30561	560Ω 5% 0.062W
3012	4822 051 30472	4.7kΩ 5% 0.062W
3013	4822 051 30103	10kΩ 5% 0.062W
3014	4822 116 52191	33Ω 5% 0.5W
3015	4822 116 52176	10Ω 5% 0.5W
3016	4822 051 30102	1kΩ 5% 0.062W
3017	4822 116 52191	33Ω 5% 0.5W
3018	4822 116 52176	10Ω 5% 0.5W
3019	4822 051 30102	1kΩ 5% 0.062W
3020	4822 051 30563	56kΩ 5% 0.062W
3021	4822 053 11478	4Ω 5% 2W
3022	4822 051 30331	330Ω 5% 0.062W
3023	4822 117 12925	47kΩ 1% 0.063W 0603
3024	4822 050 27503	75kΩ 1% 0,6W
3025	4822 117 12903	1.8kΩ 1% 0.063W 0603
3026	4822 101 11186	470Ω 30% 0.1W
3027	4822 117 12925	47kΩ 1% 0.063W 0603
3028	4822 117 10362	7.5kΩ 1% 0,1W
3029	4822 051 30102	1kΩ 5% 0.062W
3030	4822 051 30183	18kΩ 5% 0.062W
3031	2322 704 61103	11kΩ 1% 0603
3032	2322 704 61103	11kΩ 1% 0603
3033	4822 051 30222	2.2kΩ 5% 0.062W
3037	4822 051 30103	10kΩ 5% 0.062W
3038	4822 117 13632	100kΩ 1% 0603 0.62W
3039	4822 051 30105	1MΩ 5% 0.062W
3040	4822 117 10837	100kΩ 1% 0.1W
3041	4822 051 30333	33kΩ 5% 0.062W
3042	4822 051 30471	470Ω 5% 0.062W
3043	4822 051 30472	4.7kΩ 5% 0.062W
3044	4822 051 30102	1kΩ 5% 0.062W
3045	4822 051 30102	1kΩ 5% 0.062W
3046	4822 053 20565	5.6MΩ 5% 0.25W
3047	4822 051 30154	150kΩ 5% 0.062W
3048	4822 051 30472	4.7kΩ 5% 0.062W
3049	4822 051 30123	12kΩ 5% 0.062W
3050	4822 052 10398	3.9Ω 5% 0,33W
3051	4822 051 20399	39Ω 5% 0.1W
3053	2322 662 93131	10Ω PTC
3054	4822 050 21003	10kΩ 1% 0.6W
3056	4822 051 30331	330Ω 5% 0.062W
3057	4822 051 30101	100Ω 5% 0.062W
3058	4822 051 20105	1MΩ 5% 0.1W
3062	4822 051 30102	1kΩ 5% 0.062W
3064	4822 051 30103	10kΩ 5% 0.062W
3065	4822 051 30102	1kΩ 5% 0.062W
3066	4822 051 30103	10kΩ 5% 0.062W
3067	4822 051 30153	15kΩ 5% 0.062W
3070	4822 051 30103	10kΩ 5% 0.062W
3071	4822 117 12925	47kΩ 1% 0.063W 0603
3075	4822 116 83866	1MΩ 5% 0.5W
3076	4822 117 13632	100kΩ 1% 0603 0.62W
3077	4822 116 83866	1MΩ 5% 0.5W
3078	4822 117 13632	100kΩ 1% 0603 0.62W
3080	4822 051 30101	100Ω 5% 0.062W
3081	4822 051 30222	2.2kΩ 5% 0.062W
3083	4822 051 10102	1kΩ 2% 0.25W
3084	4822 051 30103	10kΩ 5% 0.062W
3085	4822 117 12925	47kΩ 1% 0.063W 0603
3086	4822 117 12925	47kΩ 1% 0.063W 0603
3087	4822 117 12925	47kΩ 1% 0.063W 0603
3088	4822 117 12925	47kΩ 1% 0.063W 0603
3090	4822 051 30101	100Ω 5% 0.062W
3091	4822 051 30102	1kΩ 5% 0.062W
3092	4822 051 30471	470Ω 5% 0.062W
3093	4822 051 30102	1kΩ 5% 0.062W
3095	4822 051 30471	470Ω 5% 0.062W
3096	4822 051 30562	5.6kΩ 5% 0.063W 0603
3097	4822 117 12968	820Ω 5% 0.62W
3110	4822 051 30102	1kΩ 5% 0.062W
3111	4822 051 30102	1kΩ 5% 0.062W
3112	4822 051 30102	1kΩ 5% 0.062W
3113	4822 051 30474	470kΩ 5% 0.062W
3114	4822 051 20564	560kΩ 5% 0.1W
3115	4822 117 12891	220kΩ 1% 0.063W 0603
3116	4822 051 30102	1kΩ 5% 0.062W
3117	4822 051 30103	10kΩ 5% 0.062W
3118	4822 116 83303	0.1Ω 2W
3119	4822 116 83303	0.1Ω 2W
3120	4822 117 12903	1.8kΩ 1% 0.063W 0603
3121	4822 117 12925	47kΩ 1% 0.063W 0603
3122	2322 734 67503	75kΩ 1% 0.062W 0805
3123	4822 117 10965	18kΩ 1% 0.1W
3124	2120 108 94004	7.5kΩ 1% 0603
3125	2120 108 94004	7.5kΩ 1% 0603
3126	4822 051 30222	2.2kΩ 5% 0.062W
3127	4822 101 11187	1kΩ 30% 0,1W
3128	4822 051 30333	33kΩ 5% 0.062W
3129	4822 053 10103	10kΩ 5% 1W
3130	4822 051 30102	1kΩ 5% 0.062W
3131	2322 704 61103	11kΩ 1% 0603
3133	4822 051 30101	100Ω 5% 0.062W
3134	4822 051 30331	330Ω 5% 0.062W
3135	4822 117 12925	47kΩ 1% 0.063W 0603
3136	4822 117 12925	47kΩ 1% 0.063W 0603
3138	4822 117 11503	220Ω 1% 0.1W
3139	4822 117 11503	220Ω 1% 0.1W
3140	2322 734 67503	75kΩ 1% 0.062W 0805
3141	2322 734 67503	75kΩ 1% 0.062W 0805
3142	5322 117 12487	1kΩ 1% 0.125W
3143	4822 053 11472	4kΩ 5% 2W
3146	2306 327 90035	Jump. 0.22Ω
3147	2322 704 61103	11kΩ 1% 0603
3148	4822 117 12925	47kΩ 1% 0.063W 0603
3149	4822 051 30103	10kΩ 5% 0.062W
3150	4822 117 10837	100kΩ 1% 0.1W
3151	4822 051 30103	10kΩ 5% 0.062W
3152	4822 117 11373	100Ω 1% 0805
3200	2322 730 61224	220kΩ 5% 0.062W 0805
3201	4822 053 10103	10kΩ 5% 1W
3202	4822 051 30479	47Ω 5% 0.062W
3203	4822 051 30101	100Ω 5% 0.062W
3204	4822 117 13632	100kΩ 1% 0603 0.62W
3205	4822 117 13632	100kΩ 1% 0603 0.62W
3212	4822 051 30102	1kΩ 5% 0.062W
3213	4822 051 30105	1MΩ 5% 0.062W
3214	4822 117 12889	270kΩ 1% 0.063W 0603
3216	4822 051 30102	1kΩ 5% 0.062W
3217	4822 051 30103	10kΩ 5% 0.062W
3218	4822 116 83303	0.1Ω 2W
3219	4822 116 83303	0.1Ω 2W
3224	5322 117 13028	12kΩ 1% 0.063W 0603
3225	2322 704 61103	11kΩ 1% 0603
3226	4822 051 30103	10kΩ 5% 0.062W
3228	4822 051 30151	150Ω 5% 0.062W
3240	4822 051 30102	1kΩ 5% 0.062W
3241	4822 051 30102	1kΩ 5% 0.062W
3260	4822 051 30102	1kΩ 5% 0.062W
3261	4822 051 30102	1kΩ 5% 0.062W
3262	4822 117 11188	20kΩ 1% 0,1W
3264	4822 051 30682	6.8kΩ 5% 0.062W
3265	4822 051 30102	1kΩ 5% 0.062W
3268	4822 051 30102	1kΩ 5% 0.062W
3292	4822 051 30561	560Ω 5% 0.062W
3300	4822 117 13579	220kΩ 1% 0.1W 0805
3301	4822 117 13579	220kΩ 1% 0.1W 0805
3302	2312 916 71004	100kΩ 1%
3303	2312 916 71004	100kΩ 1%
3304	4822 051 30102	1kΩ 5% 0.062W
3305	2312 916 76202	6.2kΩ 1%
3306	2322 704 61103	11kΩ 1% 0603
3307	2322 704 61103	11kΩ 1% 0603
3307	5322 117 13028	12kΩ 1% 0.063W 0603
3308	4822 051 30102	1kΩ 5% 0.062W
3309	4822 051 30102	1kΩ 5% 0.062W
3310	4822 051 30472	4.7kΩ 5% 0.062W
3311	4822 117 13579	220kΩ 1% 0.1W 0805
3312	4822 051 30102	1kΩ 5% 0.062W
3313	2120 108 94004	7.5kΩ 1% 0603
3316	2312 916 77502	7.5kΩ 1%
3317	2120 108 94004	7.5kΩ 1% 0603
3318	4822 051 30102	1kΩ 5% 0.062W
3319	4822 051 30472	4.7kΩ 5% 0.062W
3320	2322 704 61103	11kΩ 1% 0603
3320	4822 117 10833	10kΩ 1% 0.1W
3321	4822 051 30102	1kΩ 5% 0.062W
3322	4822 117 10833	10kΩ 1% 0.1W
3322	5322 117 13042	3.9kΩ 1% 0.063W 0603
3323	4822 117 10833	10kΩ 1% 0.1W
3323	5322 117 13028	12kΩ 1% 0.063W 0603
3324	4822 051 30102	1kΩ 5% 0.062W
3325	4822 051 30471	470Ω 5% 0.062W
3326	4822 051 30472	4.7kΩ 5% 0.062W
3327	4822 051 30103	10kΩ 5% 0.062W
3328	4822 051 30103	10kΩ 5% 0.062W
3330	4822 051 30102	1kΩ 5% 0.062W
3331	4822 051 30472	4.7kΩ 5% 0.062W
3332	4822 117 11144	3.9kΩ 1% 0.1W
3333	4822 051 30102	1kΩ 5% 0.062W
3334	4822 117 12955	2.7kΩ 1% 0.1W 0805
3335	4822 116 83933	15kΩ 1% 0.1W
3338	4822 051 30102	1kΩ 5% 0.062W
3339	4822 051 30472	4.7kΩ 5% 0.062W
3340	4822 051 30102	1kΩ 5% 0.062W
3341	4822 051 30103	10kΩ 5% 0.062W
3342	4822 051 30103	10kΩ 5% 0.062W
3343	4822 051 30102	1kΩ 5% 0.062W
3344	4822 051 30102	1kΩ 5% 0.062W
3345	4822 051 30472	4.7kΩ 5% 0.062W
3346	4822 051 30102	1kΩ 5% 0.062W
3347	4822 051 30331	330Ω 5% 0.062W
3348	4822 051 30331	330Ω 5% 0.062W
3349	4822 051 30102	1kΩ 5% 0.062W
3350	4822 051 30472	4.7kΩ 5% 0.062W
3351	4822 051 30103	10kΩ 5% 0.062W
3352	4822 051 30103	10kΩ 5% 0.062W
3353	4822 051 30103	10kΩ 5% 0.062W
3354	4822 051 30472	4.7kΩ 5% 0.062W
3358	4822 051 30222	2.2kΩ 5% 0.062W
3359	4822 051 30472	4.7kΩ 5% 0.062W
3360	4822 117 11817	1.2kΩ 1% 1/16W
3361	4822 051 30472	4.7kΩ 5% 0.062W
3362	4822 051 30102	1kΩ 5% 0.062W
3363	4822 051 30102	1kΩ 5% 0.062W
3364	4822 051 30102	1kΩ 5% 0.062W
3365	4822 051 30102	1kΩ 5% 0.062W
3366	4822 051 30103	10kΩ 5% 0.062W
3367	4822 051 30103	10kΩ 5% 0.062W
3368	2120 660 90042	PTC 330Ω 16V
3369	4822 051 30272	2.7kΩ 5% 0.062W
3370	4822 051 30101	100Ω 5% 0.062W
3371	4822 051 30101	100Ω 5% 0.062W
3372	9337 224 50116	Temp sens. KTY81-210
3372	9337 224 60116	Temp sens. KTY81-220
3373	4822 051 30472	4.7kΩ 5% 0.062W
3374	4822 117 12925	47kΩ 1% 0.063W 0603
3376	4822 117 12925	47kΩ 1% 0.063W 0603
3377	4822 051 30472	4.7kΩ 5% 0.062W
3378	4822 051 30103	10kΩ 5% 0.062W
3380	4822 117 12925	47kΩ 1% 0.063W 0603
3381	4822 117 12925	47kΩ 1% 0.063W 0603
3382	5322 117 13039	222kΩ 1% 0.063W 0603
3385	4822 117 13632	100kΩ 1% 0603 0.62W
3386	4822 117 13632	100kΩ 1% 0603 0.62W
3387	4822 051 30471	470Ω 5% 0.062W
3388	4822 051 30102	1kΩ 5% 0.062W
3389	4822 051 30102	1kΩ 5% 0.062W
3390	4822 051 30103	10kΩ 5% 0.062W
3391	4822 051 30103	10kΩ 5% 0.062W
3392	4822 051 30102	1kΩ 5% 0.062W
3393	4822 051 30103	10kΩ 5% 0.062W
3394	4822 051 30102	1kΩ 5% 0.062W
3395	4822 051 30103	10kΩ 5% 0.062W
3396	2312 916 71004	100kΩ 1%
3397	2312 916 71004	100kΩ 1%
3400	2322 595 90021	VDR 1mA/495V 850V
3401	4822 117 10118	1MΩ 5% 0,5W
3402	4822 053 21475	4.7MΩ 5% 0,5W
3403	4822 053 21475	4.7MΩ 5% 0,5W
3404	4822 116 83872	220Ω 5% 0.5W
3450	2322 662 93131	10Ω PTC
3451	2322 662 93131	10Ω PTC
3452	2122 612 00051	NTC 1Ω 20%
3453	2122 612 00051	NTC 1Ω 20%
3460	4822 051 30472	4.7kΩ 5% 0.062W
3461	4822 051 30103	10kΩ 5% 0.062W
3463	4822 051 30103	10kΩ 5% 0.062W
3465	4822 051 30103	10kΩ 5% 0.062W
3467	4822 051 30103	10kΩ 5% 0.062W
3469	4822 051 30472	4.7kΩ 5% 0.062W
3470	4822 051 30103	10kΩ 5% 0.062W
3501	4822 051 30101	100Ω 5% 0.062W
3502	4822 051 30471	470Ω 5% 0.062W
3503	5322 117 13026	4.7kΩ 1% 0.063W 0603
3503	5322 117 13042	3.9kΩ 1% 0.063W 0603
3504	5322 117 13024	33kΩ 1% 0.063W 0603
3505	4822 117 11139	1.5kΩ 1% 0.1W
3506	2322 662 93131	10Ω PTC
3507	4822 053 20225	2.2MΩ 5% 0.25W
3508	2322 194 63109	10Ω 5% 2W
3520	4822 051 30109	10Ω 5% 0.062W
3530	4822 117 13632	100kΩ 1% 0603 0.62W
3608	4822 116 52179	12Ω 5% 0,5W
3610	5322 116 53564	3.3Ω 5% 0.5W
3611	4822 050 11002	1kΩ 1% 0.4W
3614	2120 106 90565	0.1Ω 5% 1W
3615	2120 106 90565	0.1Ω 5% 1W
3639	4822 051 30102	1kΩ 5% 0.062W
3640	4822 051 30331	330Ω 5% 0.062W
3641	4822 051 30471	470Ω 5% 0.062W
3642	4822 051 30101	100Ω 5% 0.062W
3650	2322 156 21305	1.3MΩ 1% 0,25W
3651	4822 051 30103	10kΩ 5% 0.062W
3652	4822 051 30105	1MΩ 5% 0.062W
3653	4822 116 52231	820Ω 5% 0.5W
3654	4822 051 30103	10kΩ 5% 0.062W
3655	4822 051 30102	1kΩ 5% 0.062W
3663	4822 052 10108	1Ω 5% 0.33W
3664	2322 734 62704	270kΩ 1% 0.1W 0805

3665	4822 051 30103	10kΩ 5% 0.062W
3666	4822 116 52175	100Ω 5% 0.5W
3667	4822 051 30103	10kΩ 5% 0.062W
3668	4822 052 11102	1kΩ 5% 0,5W
3670	4822 050 27504	750kΩ 1% 0,6W
3671	4822 117 10833	10kΩ 1% 0.1W
3673	4822 052 11102	1kΩ 5% 0,5W
3674	4822 053 20105	1MΩ 5% 0,25W
3675	4822 053 10221	220Ω 5% 1W
3676	4822 053 10471	470Ω 5% 1W
3676	4822 053 11471	470Ω 5% 2W
3700	4822 051 30331	330Ω 5% 0.062W
3701	4822 051 30222	2.2kΩ 5% 0.062W
3702	4822 051 30222	2.2kΩ 5% 0.062W
3703	4822 051 30102	1kΩ 5% 0.062W
3706	4822 051 30331	330Ω 5% 0.062W
3707	4822 051 30222	2.2kΩ 5% 0.062W
3708	4822 051 30222	2.2kΩ 5% 0.062W
3709	4822 051 30102	1kΩ 5% 0.062W
3999	4822 051 30102	1kΩ 5% 0.062W
4261	4822 051 30008	Jumper 0603
4268	4822 051 30008	Jumper 0603
4300	4822 051 30008	Jumper 0603

5001	3128 138 38561	Transformer CE136H
5001	8222 289 53691	Driver transf. CE136H
5002⚠	3128 138 40821	Transformer CE423D
5003	4822 157 71442	150μH 10%
5004⚠	3128 138 40821	Transformer CE423D
5120	3128 138 40381	Inductor Coil CU20V
5200	3198 018 71010	100μF 10%
5220	3128 138 70541	Transformer CT296F
5224	2422 535 95273	6.8μH 20%
5225	2422 535 95273	6.8μH 20%
5260	3198 018 71010	100μF 10%
5268	2422 536 00288	100μH 10%
5290	3128 138 40391	Transformer CU15
5291	4822 157 71467	39μH 10%
5292	4822 157 71467	39μH 10%
5293	4822 157 71467	39μH 10%
5401⚠	3122 138 38901	Mains filter CU28D3
5402⚠	3122 138 38901	Mains filter CU28D3
5403	8228 001 32681	Filter U20 DIFF. mode
5404⚠	3122 138 38901	Mains filter CU28D3
5500⚠	3128 138 40361	Transformer CE165T
5505	4822 157 71467	39μH 10%
5600	3128 138 41031	Transformer CE423D
5612	4822 157 11411	Bead 83Ω at 100MHz
5703	4822 157 71414	1000μH 10%
5704	4822 157 11499	BLM11P600SPT
5709	4822 157 71414	1000μH 10%
5710	4822 157 11499	BLM11P600SPT

6004	4822 130 11397	BAS316
6005	4822 130 11397	BAS316
6007	4822 130 30621	1N4148
6008	4822 130 30621	1N4148
6009	4822 130 11397	BAS316
6010	4822 130 11397	BAS316
6011	4822 130 11397	BAS316
6012	4822 130 34281	BZX79-B15
6013	4822 130 34281	BZX79-B15
6018	4822 130 11397	BAS316
6019	4822 130 11397	BAS316
6021	9340 550 66112	BYV28-200/24
6022	4822 130 11397	BAS316
6023	4822 130 11397	BAS316
6027	4822 130 30621	1N4148
6028	4822 130 30621	1N4148
6031	9322 129 37685	BZM55-C5V6
6032	9322 129 37685	BZM55-C5V6
6033	4822 130 11594	BZX284-C47
6034	4822 130 11397	BAS316
6035	4822 130 11397	BAS316
6041	9322 167 08687	STTH2003CF
6042	9322 150 18685	BZX384-C47
6043	5322 130 31938	BYV27-200
6044	9322 167 08687	STTH2003CF
6045	9340 550 66112	BYV28-200/24
6046	9322 167 08687	STTH2003CF
6047	9322 167 08687	STTH2003CF
6050	4822 130 31024	BZX79-B18
6054	4822 130 41601	BYV95A
6054	4822 130 42488	BYD33D
6055	4822 130 41601	BYV95A
6055	4822 130 42488	BYD33D
6061	4822 130 31024	BZX79-B18
6075	9336 018 60133	BZT03-C300
6077	9336 018 60133	BZT03-C300
6086	4822 130 11397	BAS316
6086	4822 130 83757	BAS216
6095	4822 130 11397	BAS316
6111	4822 130 11397	BAS316
6112	4822 130 11397	BAS316
6113	4822 130 11397	BAS316
6117	4822 130 11152	UDZ18B
6120	4822 130 11596	BYW29EX-200
6123	4822 130 11397	BAS316
6133	4822 130 11397	BAS316
6142	9340 550 66112	BYV28-200/24
6202	4822 130 11397	BAS316
6205	4822 130 11152	UDZ18B
6206	4822 130 11397	BAS316
6211	9322 128 65685	RS1G
6213	4822 130 11397	BAS316
6216	4822 130 11152	UDZ18B
6224	9322 173 47687	STPS20L40CFP
6225	9322 173 47687	STPS20L40CFP
6230	5322 130 31938	BYV27-200
6230	9340 550 66112	BYV28-200/24
6232	4822 130 11522	UDZ15B
6260	4822 130 11421	BT151X-500R
6267	9322 161 77682	SB540L-7024
6291	9322 131 78682	D4SBL20
6312	4822 130 11528	1PS76SB10
6313	4822 130 11528	1PS76SB10
6314	4822 130 11397	BAS316
6321	4822 130 11528	1PS76SB10
6322	4822 130 11528	1PS76SB10
6324	4822 130 11397	BAS316
6325	4822 130 11416	PDZ6.8B
6333	4822 130 11528	1PS76SB10
6334	4822 130 11528	1PS76SB10
6335	4822 130 11397	BAS316
6340	4822 130 11528	1PS76SB10
6341	4822 130 11528	1PS76SB10
6342	4822 130 11397	BAS316
6344	4822 130 10838	UDZ3.3B
6347	4822 130 10654	BAT254
6348	4822 130 20297	BT169B
6362	4822 130 11397	BAS316
6364	4822 130 11397	BAS316
6365	4822 130 11397	BAS316
6375	4822 130 11397	BAS316
6376	4822 130 11397	BAS316
6378	4822 130 11528	1PS76SB10
6390	4822 130 11397	BAS316
6460	4822 130 11397	BAS316
6461	4822 130 11397	BAS316
6470	4822 130 11397	BAS316
6471	4822 130 11397	BAS316
6501	9336 018 60133	BZT03-C300
6502	9336 018 60133	BZT03-C300
6503	9322 128 65685	RS1G
6504	9322 128 65685	RS1G
6505	9322 161 76682	SB340L-7024
6510	9322 099 61685	BYG10J
6511	9322 099 61685	BYG10J
6512	9322 099 61685	BYG10J
6513	9322 099 61685	BYG10J
6520	4822 130 11397	BAS316
6530	4822 130 11152	UDZ18B
6531	4822 130 11152	UDZ18B
6600	9322 131 67679	GBU8JL-7000
6605	9322 161 81682	1N5406L-7024
6606	9322 161 81682	1N5406L-7024
6608	4822 130 11397	BAS316
6609	4822 130 32152	BZT03-C18
6611	3139 120 52021	BYV29X-500
6640	9339 680 20115	PRLL5819
6641	4822 130 11397	BAS316
6642	9339 680 20115	PRLL5819
6643	4822 130 11152	UDZ18B
6651	9339 680 20115	PRLL5819
6653	9322 129 39685	BZM55-C8V2
6654	4822 130 11397	BAS316
6660	9322 128 65685	RS1G
6661	9322 128 65685	RS1G
6663	4822 130 11397	BAS316
6665	9339 680 20115	PRLL5819
6700	4822 130 11152	UDZ18B
6703	9339 680 20115	PRLL5819
6706	4822 130 11152	UDZ18B
6709	9339 680 20115	PRLL5819

7001	9322 108 21682	MC34067P
7002⚠	9322 149 04682	TCET1102
7003⚠	9322 149 04682	TCET1102
7005	9322 164 01687	STU16NB50I
7005	9322 192 18687	STP15NK50ZFP
7006	9322 164 01687	STU16NB50I
7006	9322 192 18687	STP15NK50ZFP
7007	4822 130 40854	BC327
7008	4822 130 40854	BC327
7009	3198 010 42310	BC847BW
7010	4822 209 81397	TL431CLPST
7011	4822 209 81397	TL431CLPST
7017	3198 010 42320	BC857BW
7018	3198 010 42310	BC847BW
7020	9335 671 30126	BC517
7021	9335 671 30126	BC517
7022	3198 010 42310	BC847BW
7042	4822 130 41646	BF423
7050	9340 557 17118	PSMN035-150B
7052	9322 165 02668	IRFR18N15D
7058	3198 010 42310	BC847BW
7059	4822 130 41782	BF422
7090	3198 010 42320	BC857BW
7091	3198 010 42320	BC857BW
7092	4822 130 41246	BC327-25
7093	4822 209 80591	LM317T
7110	4822 130 41646	BF423
7111	4822 130 41646	BF423
7112	9352 673 56112	TEA1507P/N1
7117	9340 557 17118	PSMN035-150B
7120	9322 149 04682	TCET1102
7121	4822 209 81397	TL431CLPST
7130	4822 209 81397	TL431CLPST
7134	3198 010 42310	BC847BW
7140	9340 425 10115	BC857BS
7142	4822 130 41646	BF423
7143	3198 010 42310	BC847BW
7144	4822 130 41782	BF422
7145	3198 010 42320	BC857BW
7200	4822 130 63316	BSN304
7202	9965 000 04199	BSN20
7212	9352 673 56112	TEA1507P/N1
7217	9340 557 18127	PSMN070-200P
7220	9322 149 04682	TCET1102
7227	4822 209 81397	TL431CLPST
7230	4822 209 12334	L4940V85
7260	9322 166 31682	IC L4973V3.3
7304	4822 209 81397	TL431CLPST
7308	4822 209 60177	LM339D
7326	3198 010 42310	BC847BW
7327	3198 010 42310	BC847BW
7330	4822 209 60177	LM339D
7341	3198 010 42320	BC857BW
7348	3198 010 42310	BC847BW
7351	3198 010 42310	BC847BW
7352	3198 010 42310	BC847BW
7362	3198 010 42310	BC847BW
7366	4822 209 63709	LM324D
7370	5322 209 33172	PCF8574AT
7375	3198 010 42310	BC847BW
7376	3198 010 42310	BC847BW
7389	3198 010 42320	BC857BW
7391	3198 010 42320	BC857BW
7393	3198 010 42310	BC847BW
7460	4822 130 42804	BC817-25
7460	9340 219 30115	BC817-25W
7465	3198 010 42320	BC857BW
7470	4822 130 42804	BC817-25
7470	9340 219 30115	BC817-25W
7500	9322 037 99682	TNY256P
7501⚠	9322 149 04682	TCET1102
7502	4822 209 14933	TL431IZ
7530	9322 157 95668	STD16NE06L
7531	9322 157 95668	STD16NE06L
7540	4822 209 80817	L7805CV
7608	5322 130 44593	BC369
7610	9322 130 47687	STY34NB50
7640	4822 130 63316	BSN304
7641	4822 130 40981	BC337-25
7650	9322 130 69682	IC MC33368P
7654	3198 010 42320	BC857BW
7660	5322 209 71759	MCT7815CT
7700	9322 115 29668	SI9433DY
7701	3198 010 42310	BC847BW
7706	9322 115 29668	SI9433DY
7707	3198 010 42310	BC847BW

SCAVIO Panel [SC]

Various

0020	3122 128 13681	Conn. plate base
0252	3122 121 67261	Earth sheet
0301	2422 025 17396	Connector 20P m
0305	2422 025 16705	Connector 12P m
0318	2422 025 17233	Connector 32P f

0319	2422 025 17047	Connector 13P m
0320	2422 015 19565	D-lock 12.7mm
0320	2422 025 16545	Connector 10P m
0376	2422 025 16768	Connector 9P f
0378	2422 026 05071	Socket 4P f Wh/Rd
0382	2422 025 17274	Connector 10P m
0385	2422 025 17274	Connector 10P m
0388	2422 025 16704	Connector 8P m
0600	3122 357 00421	Software (check Prod.Surv.)
0601	3122 357 00382	Software (check Prod. surv.)
0603	3122 357 00285	Software (check Prod.Surv.)
1032	3122 357 21643	VGA Connector panel
1061⚠	3122 358 76342	Mains inlet unit
1063	3122 357 22061	PCA SCAVIO basic
1100⚠	2422 086 11009	Fuse T1.A 63V 2410
1105⚠	2422 086 11092	Fuse F0.5A 50V 1206
1170⚠	2422 086 11092	Fuse F0.5A 50V 1206
1171⚠	2422 086 11013	Fuse F0.315A 32V 1206
1415	2422 543 89022	Xtal 6MHz 20pF CX5F
1570	2422 543 01115	Crystal 24.576MHz
1575⚠	2422 086 11092	Fuse F0.5A 50V 1206
1670⚠	2422 086 10964	Fuse T0.630A 63V
8305	3104 311 05181	Cable 12P/315/12P
8318	3122 358 76621	Foil S18-V18
8319	3104 311 04231	Cable 13P/120/13P
8391	3122 358 76331	Tree assy M91-CP91

⊣⊢

2142	2238 586 59812	100nF 20-80% 50V 0603
2143	4822 124 12095	100μF 20% 16V
2144	5322 124 41945	22μF 20% 35V
2146	3198 017 34730	47nF 16V 0603
2150	5322 124 41945	22μF 20% 35V
2151	3198 016 31020	1nF 10% 25V 0603
2152	3198 017 34730	47nF 16V 0603
2156	5322 124 41945	22μF 20% 35V
2158	3198 017 34730	47nF 16V 0603
2162	2238 586 59812	100nF 20-80% 50V 0603
2164	4822 124 12095	100μF 20% 16V
2165	2238 586 59812	100nF 20-80% 50V 0603
2166	2238 586 59812	100nF 20-80% 50V 0603
2167	4822 124 12095	100μF 20% 16V
2170	2238 586 59812	100nF 20-80% 50V 0603
2171	2238 586 59812	100nF 20-80% 50V 0603
2172	2238 586 59812	100nF 20-80% 50V 0603
2173	2238 586 59812	100nF 20-80% 50V 0603
2174	2238 586 59812	100nF 20-80% 50V 0603
2175	2238 586 59812	100nF 20-80% 50V 0603
2176	2238 586 59812	100nF 20-80% 50V 0603
2177	2238 586 59812	100nF 20-80% 50V 0603
2178	2238 586 59812	100nF 20-80% 50V 0603
2179	2238 586 59812	100nF 20-80% 50V 0603
2180	2238 586 59812	100nF 20-80% 50V 0603
2181	2238 586 59812	100nF 20-80% 50V 0603
2182	2238 586 59812	100nF 20-80% 50V 0603
2183	2238 586 59812	100nF 20-80% 50V 0603
2184	2238 586 59812	100nF 20-80% 50V 0603
2185	2238 586 59812	100nF 20-80% 50V 0603
2186	2238 586 59812	100nF 20-80% 50V 0603
2187	2238 586 59812	100nF 20-80% 50V 0603
2188	2238 586 59812	100nF 20-80% 50V 0603
2189	2238 586 59812	100nF 20-80% 50V 0603
2190	2238 586 59812	100nF 20-80% 50V 0603
2191	2238 586 59812	100nF 20-80% 50V 0603
2192	2238 586 59812	100nF 20-80% 50V 0603
2193	2238 586 59812	100nF 20-80% 50V 0603
2195	4822 124 23002	10μF 20% 16V
2196	4822 124 23002	10μF 20% 16V
2197	4822 124 23002	10μF 20% 16V
2198	4822 124 23002	10μF 20% 16V
2199	4822 124 23002	10μF 20% 16V
2205	2238 586 59812	100nF 20-80% 50V 0603
2206	2238 586 59812	100nF 20-80% 50V 0603
2207	2238 586 59812	100nF 20-80% 50V 0603
2208	4822 126 14127	39nF 10% 50V 0805
2210	5322 126 11581	3.9nF 10% 63V 0603
2212	2238 586 59812	100nF 20-80% 50V 0603
2300	4822 124 12095	100μF 20% 16V
2301	2238 586 59812	100nF 20-80% 50V 0603
2302	4822 124 23002	10μF 20% 16V
2304	2238 586 59812	100nF 20-80% 50V 0603
2308	5322 124 41945	22μF 20% 35V
2310	2238 586 59812	100nF 20-80% 50V 0603
2311	2238 586 59812	100nF 20-80% 50V 0603
2318	5322 124 41945	22μF 20% 35V
2328	5322 124 41945	22μF 20% 35V
2337	2020 552 94427	100pF 5% 50v 0603
2340	2238 586 59812	100nF 20-80% 50V 0603
2351	2238 586 59812	100nF 20-80% 50V 0603
2352	2238 586 59812	100nF 20-80% 50V 0603
2353	4822 124 23002	10μF 20% 16V
2354	2238 586 59812	100nF 20-80% 50V 0603
2355	2238 586 59812	100nF 20-80% 50V 0603
2356	2238 586 59812	100nF 20-80% 50V 0603
2370	2238 586 59812	100nF 20-80% 50V 0603
2372	2238 586 59812	100nF 20-80% 50V 0603
2375	2238 586 59812	100nF 20-80% 50V 0603
2381	2238 586 59812	100nF 20-80% 50V 0603
2382	2238 586 59812	100nF 20-80% 50V 0603
2383	2238 586 59812	100nF 20-80% 50V 0603
2415	2238 867 75339	33pF 5% 50V 0603
2416	4822 126 11669	27pF 5% 50V 0603
2418	3198 016 31020	1nF 10% 25V 0603
2419	3198 016 31020	1nF 10% 25V 0603
2420	2238 586 59812	100nF 20-80% 50V 0603
2432	2238 586 59812	100nF 20-80% 50V 0603
2433	2238 586 59812	100nF 20-80% 50V 0603
2434	2238 586 59812	100nF 20-80% 50V 0603
2435	2238 586 59812	100nF 20-80% 50V 0603
2436	2238 586 59812	100nF 20-80% 50V 0603
2437	2238 586 59812	100nF 20-80% 50V 0603
2438	4822 126 13879	220nF 20% 16V
2439	4822 126 13879	220nF 20% 16V
2446	2238 586 59812	100nF 20-80% 50V 0603
2447	2238 586 59812	100nF 20-80% 50V 0603
2448	2238 586 59812	100nF 20-80% 50V 0603
2499	2238 586 59812	100nF 20-80% 50V 0603
2500	2238 586 59812	100nF 20-80% 50V 0603
2501	4822 126 14226	82pF 5% 50V 0603
2502	4822 126 14226	82pF 5% 50V 0603
2503	4822 126 14226	82pF 5% 50V 0603
2504	4822 126 14226	82pF 5% 50V 0603
2505	4822 126 14226	82pF 5% 50V 0603
2506	2238 586 59812	100nF 20-80% 50V 0603
2511	2238 586 59812	100nF 20-80% 50V 0603
2513	2238 586 59812	100nF 20-80% 50V 0603
2515	2238 586 59812	100nF 20-80% 50V 0603
2520	4822 124 23002	10μF 20% 16V
2521	4822 124 23002	10μF 20% 16V
2522	4822 124 23002	10μF 20% 16V
2523	4822 124 23002	10μF 20% 16V
2524	4822 124 23002	10μF 20% 16V
2530	5322 124 41945	22μF 20% 35V
2531	2238 586 59812	100nF 20-80% 50V 0603
2533	2238 586 59812	100nF 20-80% 50V 0603
2534	2238 586 59812	100nF 20-80% 50V 0603
2535	2238 586 59812	100nF 20-80% 50V 0603
2537	2238 586 59812	100nF 20-80% 50V 0603
2538	3198 016 31020	1nF 10% 25V 0603
2541	2238 586 59812	100nF 20-80% 50V 0603
2546	3198 016 31020	1nF 10% 25V 0603
2547	3198 016 31020	1nF 10% 25V 0603
2548	3198 016 31020	1nF 10% 25V 0603
2550	3198 016 31020	1nF 10% 25V 0603
2551	3198 016 31020	1nF 10% 25V 0603
2552	3198 016 31020	1nF 10% 25V 0603
2553	3198 016 31020	1nF 10% 25V 0603
2554	2238 586 59812	100nF 20-80% 50V 0603
2555	2238 586 59812	100nF 20-80% 50V 0603
2557	3198 016 31020	1nF 10% 25V 0603
2558	3198 016 31020	1nF 10% 25V 0603
2559	3198 016 31020	1nF 10% 25V 0603
2560	3198 016 31020	1nF 10% 25V 0603
2562	3198 016 31020	1nF 10% 25V 0603
2563	3198 016 31020	1nF 10% 25V 0603
2564	3198 016 31020	1nF 10% 25V 0603
2565	3198 016 31020	1nF 10% 25V 0603
2566	3198 016 31020	1nF 10% 25V 0603
2570	3198 016 31020	1nF 10% 25V 0603
2572	2238 586 59812	100nF 20-80% 50V 0603
2573	4822 124 23002	10μF 20% 16V
2574	2238 586 59812	100nF 20-80% 50V 0603
2581	2238 586 59812	100nF 20-80% 50V 0603
2583	2238 586 59812	100nF 20-80% 50V 0603
2584	2238 586 59812	100nF 20-80% 50V 0603
2600	2238 586 59812	100nF 20-80% 50V 0603
2601	2238 586 59812	100nF 20-80% 50V 0603
2602	2238 586 59812	100nF 20-80% 50V 0603
2603	2238 586 59812	100nF 20-80% 50V 0603
2604	2238 586 59812	100nF 20-80% 50V 0603
2605	2238 586 59812	100nF 20-80% 50V 0603
2606	2238 586 59812	100nF 20-80% 50V 0603
2607	2238 586 59812	100nF 20-80% 50V 0603
2608	2238 586 59812	100nF 20-80% 50V 0603
2609	2238 586 59812	100nF 20-80% 50V 0603
2610	2238 586 59812	100nF 20-80% 50V 0603
2611	2238 586 59812	100nF 20-80% 50V 0603
2612	2238 586 59812	100nF 20-80% 50V 0603
2613	2238 586 59812	100nF 20-80% 50V 0603
2614	2238 586 59812	100nF 20-80% 50V 0603
2615	2238 586 59812	100nF 20-80% 50V 0603
2616	2238 586 59812	100nF 20-80% 50V 0603
2617	2238 586 59812	100nF 20-80% 50V 0603
2618	2238 586 59812	100nF 20-80% 50V 0603
2619	2238 586 59812	100nF 20-80% 50V 0603
2620	2238 586 59812	100nF 20-80% 50V 0603
2621	2238 586 59812	100nF 20-80% 50V 0603
2622	2238 586 59812	100nF 20-80% 50V 0603
2623	2238 586 59812	100nF 20-80% 50V 0603
2624	2238 586 59812	100nF 20-80% 50V 0603
2625	2238 586 59812	100nF 20-80% 50V 0603
2628	2238 586 59812	100nF 20-80% 50V 0603
2629	4822 122 33741	10pF 10% 50V
2630	2238 586 59812	100nF 20-80% 50V 0603
2640	2238 586 59812	100nF 20-80% 50V 0603
2641	3198 016 31020	1nF 10% 25V 0603
2642	4822 124 23002	10μF 20% 16V
2643	4822 124 23002	10μF 20% 16V
2644	4822 124 23002	10μF 20% 16V
2645	4822 124 23002	10μF 20% 16V
2646	4822 124 23002	10μF 20% 16V
2647	4822 124 23002	10μF 20% 16V
2648	4822 124 23002	10μF 20% 16V
2649	4822 124 23002	10μF 20% 16V
2655	2238 586 59812	100nF 20-80% 50V 0603
2656	2238 586 59812	100nF 20-80% 50V 0603
2657	2238 586 59812	100nF 20-80% 50V 0603
2658	2238 586 59812	100nF 20-80% 50V 0603
2659	2238 586 59812	100nF 20-80% 50V 0603
2660	2238 586 59812	100nF 20-80% 50V 0603
2661	2238 586 59812	100nF 20-80% 50V 0603
2662	2238 586 59812	100nF 20-80% 50V 0603
2663	2238 586 59812	100nF 20-80% 50V 0603
2670	2238 586 59812	100nF 20-80% 50V 0603
2671	2238 586 59812	100nF 20-80% 50V 0603
2672	2238 586 59812	100nF 20-80% 50V 0603
2673	2238 586 59812	100nF 20-80% 50V 0603
2674	2238 586 59812	100nF 20-80% 50V 0603
2694	3198 016 31080	1pF 25% 50V 0603
2695	3198 016 31080	1pF 25% 50V 0603
2696	3198 016 31080	1pF 25% 50V 0603
2697	3198 016 31080	1pF 25% 50V 0603
2698	3198 016 31080	1pF 25% 50V 0603
2699	3198 016 31080	1pF 25% 50V 0603
2711	2020 552 94427	100pF 5% 50v 0603
2712	4822 126 14472	1μF 10% 10V 0805
2715	2238 586 59812	100nF 20-80% 50V 0603
2716	4822 126 11785	47pF 5% 50V 0603
2717	4822 126 14472	1μF 10% 10V 0805
2721	2020 552 94427	100pF 5% 50v 0603
2722	4822 126 14472	1μF 10% 10V 0805
2726	4822 126 11785	47pF 5% 50V 0603
2727	4822 126 14472	1μF 10% 10V 0805
2731	2020 552 94427	100pF 5% 50v 0603
2741	2020 552 94427	100pF 5% 50v 0603
2799	5322 124 41945	22μF 20% 35V
2800	4822 124 12095	100μF 20% 16V
2802	4822 124 23002	10μF 20% 16V
2803	4822 124 23002	10μF 20% 16V
2804	3198 016 31020	1nF 10% 25V 0603
2810	4822 124 12095	100μF 20% 16V
2811	3198 016 31020	1nF 10% 25V 0603
2812	3198 016 31020	1nF 10% 25V 0603
2813	3198 016 31020	1nF 10% 25V 0603
2814	4822 126 14585	100nF 10% 50V
2815	3198 016 31020	1nF 10% 25V 0603
2816	4822 124 23002	10μF 20% 16V
2817	2238 586 59812	100nF 20-80% 50V 0603
2818	3198 016 31020	1nF 10% 25V 0603
2819	3198 016 31020	1nF 10% 25V 0603
2820	4822 124 23002	10μF 20% 16V
2821	4822 124 23002	10μF 20% 16V
2822	4822 126 14247	1.5nF 50V 0603
2823	4822 124 23002	10μF 20% 16V
2824	4822 126 14247	1.5nF 50V 0603
2825	3198 016 31020	1nF 10% 25V 0603
2826	4822 126 14472	1μF 10% 10V 0805
2827	4822 126 14472	1μF 10% 10V 0805
2828	3198 016 31020	1nF 10% 25V 0603
2829	4822 124 23002	10μF 20% 16V
2830	2238 586 59812	100nF 20-80% 50V 0603
2831	2238 586 59812	100nF 20-80% 50V 0603
2833	4822 126 14247	1.5nF 50V 0603
2834	4822 124 23002	10μF 20% 16V
2837	4822 126 13881	470pF 5% 50V
2838	4822 126 13881	470pF 5% 50V
2839	4822 126 13881	470pF 5% 50V
2840	4822 126 11669	27pF 5% 50V 0603
2842	2238 586 59812	100nF 20-80% 50V 0603
2843	4822 126 11669	27pF 5% 50V 0603
2844	3198 016 31020	1nF 10% 25V 0603
2845	4822 126 13883	220pF 5% 50V
2848	4822 126 11669	27pF 5% 50V 0603
2849	3198 016 31020	1nF 10% 25V 0603
2850	4822 126 11669	27pF 5% 50V 0603
2852	2238 586 59812	100nF 20-80% 50V 0603
2853	4822 126 11669	27pF 5% 50V 0603

2854	3198 016 31020	1nF 10% 25V 0603
2857	3198 016 31020	1nF 10% 25V 0603
2858	4822 126 11669	27pF 5% 50V 0603
2861	2238 586 59812	100nF 20-80% 50V 0603
2862	4822 126 11785	47pF 5% 50V 0603
2863	4822 126 14472	1µF 10% 10V 0805
2865	4822 126 11785	47pF 5% 50V 0603
2867	4822 126 13879	220nF 20% 16V
2868	4822 126 14472	1µF 10% 10V 0805
2869	4822 126 14247	1.5nF 50V 0603
2870	2238 586 59812	100nF 20-80% 50V 0603
2874	2238 586 59812	100nF 20-80% 50V 0603
2879	4822 126 11669	27pF 5% 50V 0603
2880	2238 586 59812	100nF 20-80% 50V 0603
2881	2238 586 59812	100nF 20-80% 50V 0603
2882	2238 586 59812	100nF 20-80% 50V 0603

3007	4822 051 30103	10kΩ 5% 0.062W
3009	4822 051 30102	1kΩ 5% 0.062W
3016	4822 051 30101	100Ω 5% 0.062W
3018	4822 051 30101	100Ω 5% 0.062W
3019	4822 051 30103	10kΩ 5% 0.062W
3133	4822 051 30101	100Ω 5% 0.062W
3144	4822 051 30271	270Ω 5% 0.062W
3145	4822 051 30223	22kΩ 5% 0.062W
3146	4822 051 30561	560Ω 5% 0.062W
3150	4822 051 30271	270Ω 5% 0.062W
3151	4822 051 30223	22kΩ 5% 0.062W
3152	4822 051 30561	560Ω 5% 0.062W
3156	4822 051 30271	270Ω 5% 0.062W
3157	4822 051 30223	22kΩ 5% 0.062W
3158	4822 051 30561	560Ω 5% 0.062W
3162	4822 051 30101	100Ω 5% 0.062W
3164	4822 051 30471	470Ω 5% 0.062W
3166	4822 051 30101	100Ω 5% 0.062W
3170	4822 051 30101	100Ω 5% 0.062W
3171	4822 051 30101	100Ω 5% 0.062W
3172	4822 051 30101	100Ω 5% 0.062W
3200	4822 051 30101	100Ω 5% 0.062W
3203	4822 051 30101	100Ω 5% 0.062W
3204	4822 051 30101	100Ω 5% 0.062W
3205	4822 051 30101	100Ω 5% 0.062W
3206	4822 051 30102	1kΩ 5% 0.062W
3207	4822 051 30103	10kΩ 5% 0.062W
3208	4822 051 30332	3.3kΩ 5% 0.062W
3209	4822 051 30101	100Ω 5% 0.062W
3210	4822 051 30101	100Ω 5% 0.062W
3211	4822 051 30102	1kΩ 5% 0.062W
3212	4822 051 30102	1kΩ 5% 0.062W
3219	4822 117 12139	22Ω 5% 0.062W
3294	4822 051 30102	1kΩ 5% 0.062W
3295	4822 051 30103	10kΩ 5% 0.062W
3296	4822 051 30474	470kΩ 5% 0.062W
3300	4822 051 30153	15kΩ 5% 0.062W
3304	4822 051 30689	68Ω 5% 0.063W 0603
3305	4822 051 30472	4.7kΩ 5% 0.062W
3306	4822 051 30153	15kΩ 5% 0.062W
3307	4822 051 30472	4.7kΩ 5% 0.062W
3308	4822 051 30271	270Ω 5% 0.062W
3309	4822 051 30273	27kΩ 5% 0.062W
3310	4822 051 30102	1kΩ 5% 0.062W
3311	4822 051 30102	1kΩ 5% 0.062W
3312	4822 117 12903	1.8kΩ 1% 0.063W 0603
3313	4822 051 30103	10kΩ 5% 0.062W
3314	4822 117 12903	1.8kΩ 1% 0.063W 0603
3316	4822 051 30153	15kΩ 5% 0.062W
3317	4822 051 30472	4.7kΩ 5% 0.062W
3318	4822 051 30271	270Ω 5% 0.062W
3319	4822 051 30273	27kΩ 5% 0.062W
3320	4822 051 30102	1kΩ 5% 0.062W
3321	4822 051 30102	1kΩ 5% 0.062W
3322	4822 117 12903	1.8kΩ 1% 0.063W 0603
3323	4822 051 30103	10kΩ 5% 0.062W
3324	4822 117 12903	1.8kΩ 1% 0.063W 0603
3326	4822 051 30102	1kΩ 5% 0.062W
3327	4822 051 30103	10kΩ 5% 0.062W
3328	4822 051 30271	270Ω 5% 0.062W
3329	4822 051 30273	27kΩ 5% 0.062W
3330	4822 051 30102	1kΩ 5% 0.062W
3331	4822 051 30102	1kΩ 5% 0.062W
3332	4822 117 12903	1.8kΩ 1% 0.063W 0603
3333	4822 051 30103	10kΩ 5% 0.062W
3334	4822 117 12903	1.8kΩ 1% 0.063W 0603
3336	4822 051 30103	10kΩ 5% 0.062W
3337	4822 051 30103	10kΩ 5% 0.062W
3338	4822 051 30333	33kΩ 5% 0.062W
3339	4822 051 30103	10kΩ 5% 0.062W
3340	4822 051 30103	10kΩ 5% 0.062W
3344	4822 051 30472	4.7kΩ 5% 0.062W
3346	4822 051 30103	10kΩ 5% 0.062W
3348	4822 051 30474	470kΩ 5% 0.062W
3349	4822 051 30333	33kΩ 5% 0.062W
3350	4822 051 30101	100Ω 5% 0.062W
3351	4822 051 30689	68Ω 5% 0.063W 0603
3352	4822 051 30103	10kΩ 5% 0.062W
3353	4822 051 30101	100Ω 5% 0.062W
3354	4822 051 30101	100Ω 5% 0.062W
3355	4822 051 30103	10kΩ 5% 0.062W
3359	4822 051 30689	68Ω 5% 0.063W 0603
3363	4822 051 30472	4.7kΩ 5% 0.062W
3370	4822 051 30474	470kΩ 5% 0.062W
3371	4822 051 30101	100Ω 5% 0.062W
3372	4822 051 30103	10kΩ 5% 0.062W
3373	4822 051 30222	2.2kΩ 5% 0.062W
3375	4822 117 13632	100kΩ 1% 0603 0.62W
3376	4822 051 30472	4.7kΩ 5% 0.062W
3377	4822 051 30101	100Ω 5% 0.062W
3379	4822 051 30222	2.2kΩ 5% 0.062W
3380	3198 031 11010	4 x 100Ω 5% 1206
3381	3198 031 11010	4 x 100Ω 5% 1206
3382	3198 031 11010	4 x 100Ω 5% 1206
3383	3198 031 11010	4 x 100Ω 5% 1206
3384	4822 051 30101	100Ω 5% 0.062W
3385	4822 051 30102	1kΩ 5% 0.062W
3386	4822 051 30222	2.2kΩ 5% 0.062W
3387	4822 051 30102	1kΩ 5% 0.062W
3388	4822 051 30102	1kΩ 5% 0.062W
3389	4822 051 30101	100Ω 5% 0.062W
3390	4822 051 30102	1kΩ 5% 0.062W
3391	4822 051 30333	33kΩ 5% 0.062W
3392	4822 051 30101	100Ω 5% 0.062W
3393	4822 051 30102	1kΩ 5% 0.062W
3394	4822 051 30222	2.2kΩ 5% 0.062W
3398	3198 031 11010	4 x 100Ω 5% 1206
3400	4822 051 30222	2.2kΩ 5% 0.062W
3402	3198 031 11010	4 x 100Ω 5% 1206
3404	3198 031 11010	4 x 100Ω 5% 1206
3405	4822 051 30332	3.3kΩ 5% 0.062W
3406	3198 031 11010	4 x 100Ω 5% 1206
3410	4822 051 30222	2.2kΩ 5% 0.062W
3411	4822 051 30332	3.3kΩ 5% 0.062W
3413	4822 051 30222	2.2kΩ 5% 0.062W
3414	4822 051 30472	4.7kΩ 5% 0.062W
3415	4822 051 30472	4.7kΩ 5% 0.062W
3418	4822 051 30102	1kΩ 5% 0.062W
3419	4822 051 30392	3.9kΩ 5% 0.063W 0603
3420	4822 051 30222	2.2kΩ 5% 0.062W
3421	4822 051 30102	1kΩ 5% 0.062W
3422	4822 051 30152	1.5kΩ 5% 0.062W
3424	4822 051 30332	3.3kΩ 5% 0.062W
3426	4822 051 30332	3.3kΩ 5% 0.062W
3428	4822 051 30101	100Ω 5% 0.062W
3429	4822 051 30101	100Ω 5% 0.062W
3430	4822 051 30472	4.7kΩ 5% 0.062W
3431	4822 051 30101	100Ω 5% 0.062W
3432	4822 051 30472	4.7kΩ 5% 0.062W
3433	4822 051 30101	100Ω 5% 0.062W
3435	4822 051 30273	27kΩ 5% 0.062W
3436	4822 117 12891	220kΩ 1% 0.063W 0603
3448	3198 031 11010	4 x 100Ω 5% 1206
3449	3198 031 11010	4 x 100Ω 5% 1206
3450	4822 051 30101	100Ω 5% 0.062W
3451	3198 031 11010	4 x 100Ω 5% 1206
3452	3198 031 11010	4 x 100Ω 5% 1206
3453	3198 031 11010	4 x 100Ω 5% 1206
3460	3198 031 11010	4 x 100Ω 5% 1206
3461	3198 031 11010	4 x 100Ω 5% 1206
3462	3198 031 11010	4 x 100Ω 5% 1206
3463	3198 031 11010	4 x 100Ω 5% 1206
3464	3198 031 11010	4 x 100Ω 5% 1206
3483	4822 051 30471	470Ω 5% 0.062W
3485	4822 051 30151	150Ω 5% 0.062W
3486	4822 051 30151	150Ω 5% 0.062W
3487	4822 051 30151	150Ω 5% 0.062W
3488	4822 051 30222	2.2kΩ 5% 0.062W
3489	4822 051 30222	2.2kΩ 5% 0.062W
3490	4822 051 30102	1kΩ 5% 0.062W
3494	3198 031 14710	4 x 470Ω 5% 1206
3496	4822 051 30103	10kΩ 5% 0.062W
3502	4822 051 30008	Jumper 0603
3506	4822 051 30332	3.3kΩ 5% 0.062W
3507	4822 051 30472	4.7kΩ 5% 0.062W
3510	4822 051 30102	1kΩ 5% 0.062W
3511	4822 051 30222	2.2kΩ 5% 0.062W
3512	4822 051 30562	5.6kΩ 5% 0.063W 0603
3513	4822 051 30332	3.3kΩ 5% 0.062W
3514	4822 051 30472	4.7kΩ 5% 0.062W
3515	4822 117 12925	47kΩ 1% 0.063W 0603
3516	4822 117 12925	47kΩ 1% 0.063W 0603
3517	4822 051 30102	1kΩ 5% 0.062W
3518	4822 117 13632	100kΩ 1% 0603 0.62W
3519	4822 051 30222	2.2kΩ 5% 0.062W
3520	4822 051 30222	2.2kΩ 5% 0.062W
3530	4822 051 30101	100Ω 5% 0.062W
3531	4822 051 30101	100Ω 5% 0.062W
3532	4822 051 30101	100Ω 5% 0.062W
3536	5322 117 13037	2.2kΩ 0.063W 0603
3540	4822 051 30101	100Ω 5% 0.062W
3541	4822 051 30101	100Ω 5% 0.062W
3545	4822 051 30008	Jumper 0603
3547	4822 051 30102	1kΩ 5% 0.062W
3548	4822 051 30102	1kΩ 5% 0.062W
3550	4822 051 30101	100Ω 5% 0.062W
3551	4822 051 30101	100Ω 5% 0.062W
3552	4822 051 30101	100Ω 5% 0.062W
3553	4822 051 30101	100Ω 5% 0.062W
3556	4822 051 30222	2.2kΩ 5% 0.062W
3557	4822 051 30101	100Ω 5% 0.062W
3558	4822 051 30101	100Ω 5% 0.062W
3559	4822 051 30101	100Ω 5% 0.062W
3560	4822 051 30101	100Ω 5% 0.062W
3562	4822 051 30103	10kΩ 5% 0.062W
3566	4822 051 30103	10kΩ 5% 0.062W
3567	4822 051 30103	10kΩ 5% 0.062W
3568	4822 051 30008	Jumper 0603
3570	4822 051 30332	3.3kΩ 5% 0.062W
3571	4822 051 30101	100Ω 5% 0.062W
3572	4822 051 30008	Jumper 0603
3575	4822 051 30102	1kΩ 5% 0.062W
3578	4822 051 30151	150Ω 5% 0.062W
3580	4822 051 30472	4.7kΩ 5% 0.062W
3581	4822 051 30101	100Ω 5% 0.062W
3582	4822 051 30101	100Ω 5% 0.062W
3583	4822 051 30472	4.7kΩ 5% 0.062W
3590	4822 051 30332	3.3kΩ 5% 0.062W
3591	4822 051 30332	3.3kΩ 5% 0.062W
3592	4822 051 30332	3.3kΩ 5% 0.062W
3593	4822 051 30332	3.3kΩ 5% 0.062W
3594	4822 051 30472	4.7kΩ 5% 0.062W
3600	4822 051 30332	3.3kΩ 5% 0.062W
3601	4822 051 30332	3.3kΩ 5% 0.062W
3602	4822 051 30101	100Ω 5% 0.062W
3603	4822 051 30101	100Ω 5% 0.062W
3604	4822 051 30101	100Ω 5% 0.062W
3605	4822 051 30101	100Ω 5% 0.062W
3606	4822 051 30101	100Ω 5% 0.062W
3607	4822 051 30101	100Ω 5% 0.062W
3608	4822 051 30101	100Ω 5% 0.062W
3609	4822 051 30101	100Ω 5% 0.062W
3610	4822 051 30479	47Ω 5% 0.062W
3611	4822 051 30101	100Ω 5% 0.062W
3615	4822 051 30101	100Ω 5% 0.062W
3620	4822 051 30103	10kΩ 5% 0.062W
3621	4822 051 30103	10kΩ 5% 0.062W
3622	4822 051 30479	47Ω 5% 0.062W
3623	4822 051 30102	1kΩ 5% 0.062W
3625	4822 051 30332	3.3kΩ 5% 0.062W
3626	4822 051 30332	3.3kΩ 5% 0.062W
3627	4822 051 30332	3.3kΩ 5% 0.062W
3628	4822 051 30101	100Ω 5% 0.062W
3630	4822 051 30102	1kΩ 5% 0.062W
3632	4822 051 30332	3.3kΩ 5% 0.062W
3633	4822 051 30472	4.7kΩ 5% 0.062W
3634	4822 051 30332	3.3kΩ 5% 0.062W
3636	4822 051 30332	3.3kΩ 5% 0.062W
3638	4822 051 30102	1kΩ 5% 0.062W
3640	4822 051 30222	2.2kΩ 5% 0.062W
3641	4822 051 30101	100Ω 5% 0.062W
3653	4822 051 30102	1kΩ 5% 0.062W
3654	4822 051 30102	1kΩ 5% 0.062W
3655	4822 051 30102	1kΩ 5% 0.062W
3657	4822 051 30103	10kΩ 5% 0.062W
3658	4822 051 30103	10kΩ 5% 0.062W
3661	4822 051 30101	100Ω 5% 0.062W
3662	4822 051 30101	100Ω 5% 0.062W
3663	4822 051 30101	100Ω 5% 0.062W
3664	4822 051 30101	100Ω 5% 0.062W
3665	4822 051 30101	100Ω 5% 0.062W
3667	4822 051 30101	100Ω 5% 0.062W
3668	4822 051 30101	100Ω 5% 0.062W
3673	4822 051 30103	10kΩ 5% 0.062W
3674	4822 051 30101	100Ω 5% 0.062W
3675	4822 051 30103	10kΩ 5% 0.062W
3676	4822 051 30101	100Ω 5% 0.062W
3677	4822 051 30101	100Ω 5% 0.062W
3679	4822 051 30101	100Ω 5% 0.062W
3681	4822 051 30332	3.3kΩ 5% 0.062W
3682	4822 051 30471	470Ω 5% 0.062W
3685	4822 051 30332	3.3kΩ 5% 0.062W
3686	4822 051 30471	470Ω 5% 0.062W
3710	4822 051 30333	33kΩ 5% 0.062W
3711	4822 051 30102	1kΩ 5% 0.062W
3713	4822 051 30101	100Ω 5% 0.062W
3714	4822 051 30223	22kΩ 5% 0.062W
3716	4822 051 30153	15kΩ 5% 0.062W
3720	4822 051 30333	33kΩ 5% 0.062W
3721	4822 051 30102	1kΩ 5% 0.062W
3723	4822 051 30101	100Ω 5% 0.062W
3724	4822 051 30223	22kΩ 5% 0.062W

3726	4822 051 30153	15kΩ 5% 0.062W
3730	4822 051 30333	33kΩ 5% 0.062W
3731	4822 051 30331	330Ω 5% 0.062W
3740	4822 051 30333	33kΩ 5% 0.062W
3741	4822 051 30331	330Ω 5% 0.062W
3796	4822 051 30472	4.7kΩ 5% 0.062W
3797	4822 051 30472	4.7kΩ 5% 0.062W
3798	4822 051 30333	33kΩ 5% 0.062W
3800	4822 051 30331	330Ω 5% 0.062W
3801	4822 051 30331	330Ω 5% 0.062W
3802	4822 051 30333	33kΩ 5% 0.062W
3803	4822 117 13632	100kΩ 1% 0603 0.62W
3804	4822 051 30333	33kΩ 5% 0.062W
3805	4822 117 13632	100kΩ 1% 0603 0.62W
3806	4822 117 13632	100kΩ 1% 0603 0.62W
3807	4822 117 13632	100kΩ 1% 0603 0.62W
3808	4822 117 13632	100kΩ 1% 0603 0.62W
3809	4822 051 30333	33kΩ 5% 0.062W
3810	4822 051 30472	4.7kΩ 5% 0.062W
3811	4822 051 30472	4.7kΩ 5% 0.062W
3812	4822 051 30101	100Ω 5% 0.062W
3813	4822 051 30101	100Ω 5% 0.062W
3815	4822 051 30101	100Ω 5% 0.062W
3816	4822 051 30101	100Ω 5% 0.062W
3820	4822 051 30333	33kΩ 5% 0.062W
3821	4822 051 30103	10kΩ 5% 0.062W
3822	4822 051 30333	33kΩ 5% 0.062W
3840	4822 051 30223	22kΩ 5% 0.062W
3841	4822 051 30223	22kΩ 5% 0.062W
3843	4822 051 30393	39kΩ 5% 0.062W
3844	4822 051 30101	100Ω 5% 0.062W
3845	4822 051 30101	100Ω 5% 0.062W
3846	4822 051 30223	22kΩ 5% 0.062W
3847	4822 051 30393	39kΩ 5% 0.062W
3848	4822 051 30393	39kΩ 5% 0.062W
3849	4822 051 30101	100Ω 5% 0.062W
3850	4822 051 30223	22kΩ 5% 0.062W
3851	4822 051 30223	22kΩ 5% 0.062W
3853	4822 051 30393	39kΩ 5% 0.062W
3854	4822 051 30101	100Ω 5% 0.062W
3855	4822 051 30101	100Ω 5% 0.062W
3856	4822 051 30223	22kΩ 5% 0.062W
3857	4822 051 30393	39kΩ 5% 0.062W
3858	4822 051 30393	39kΩ 5% 0.062W
3859	4822 051 30101	100Ω 5% 0.062W
3860	4822 117 12902	8.2kΩ 1% 0.063W 0603
3861	4822 051 30223	22kΩ 5% 0.062W
3862	4822 051 30273	27kΩ 5% 0.062W
3863	4822 117 12902	8.2kΩ 1% 0.063W 0603
3864	4822 051 30223	22kΩ 5% 0.062W
3865	4822 051 30273	27kΩ 5% 0.062W
3866	4822 051 30101	100Ω 5% 0.062W
3867	4822 051 30101	100Ω 5% 0.062W
3870	4822 051 30101	100Ω 5% 0.062W
3879	4822 117 12925	47kΩ 1% 0.063W 0603
3880	4822 051 30471	470Ω 5% 0.062W
3900	4822 051 30472	4.7kΩ 5% 0.062W
3901	4822 051 30333	33kΩ 5% 0.062W
3905	4822 051 30103	10kΩ 5% 0.062W
3906	4822 051 30103	10kΩ 5% 0.062W
3907	4822 051 30103	10kΩ 5% 0.062W
3908	4822 051 30103	10kΩ 5% 0.062W
3909	4822 051 30152	1.5kΩ 5% 0.062W
3910	4822 051 30102	1kΩ 5% 0.062W
3911	4822 117 12925	47kΩ 1% 0.063W 0603
3912	4822 051 30472	4.7kΩ 5% 0.062W
3913	4822 051 30101	100Ω 5% 0.062W
3917	4822 051 30472	4.7kΩ 5% 0.062W
3918	4822 051 30102	1kΩ 5% 0.062W
3919	4822 051 30102	1kΩ 5% 0.062W
3922	4822 051 30102	1kΩ 5% 0.062W
3923	4822 051 30472	4.7kΩ 5% 0.062W
3924	4822 051 30331	330Ω 5% 0.062W
3925	4822 051 30151	150Ω 5% 0.062W
3926	4822 051 30331	330Ω 5% 0.062W
3927	4822 051 30331	330Ω 5% 0.062W
3928	4822 051 30331	330Ω 5% 0.062W
4006	4822 051 30008	Jumper 0603
4007	4822 051 30008	Jumper 0603
4009	4822 051 30008	Jumper 0603
4010	4822 051 30008	Jumper 0603
4146	4822 051 30008	Jumper 0603
4152	4822 051 30008	Jumper 0603
4158	4822 051 30008	Jumper 0603
4201	4822 051 30008	Jumper 0603
4202	4822 051 30008	Jumper 0603
4203	4822 051 30008	Jumper 0603
4315	4822 051 30008	Jumper 0603
4325	4822 051 30008	Jumper 0603
4335	4822 051 30008	Jumper 0603
4385	4822 051 30008	Jumper 0603
4431	4822 051 30008	Jumper 0603
4572	4822 051 30008	Jumper 0603
4574	4822 051 30008	Jumper 0603
4582	4822 051 30008	Jumper 0603
4605	4822 051 30008	Jumper 0603
4659	4822 051 30008	Jumper 0603
4680	4822 051 30008	Jumper 0603
4684	4822 051 30008	Jumper 0603
4794	4822 051 30008	Jumper 0603
4797	4822 051 30008	Jumper 0603
4800	4822 051 30008	Jumper 0603
4801	4822 051 30008	Jumper 0603
4810	4822 051 30008	Jumper 0603
4811	4822 051 30008	Jumper 0603
4871	4822 051 30008	Jumper 0603
4874	4822 051 30008	Jumper 0603
4875	4822 051 30008	Jumper 0603
4884	4822 051 30008	Jumper 0603
4894	4822 051 30008	Jumper 0603

5140	2422 549 43062	Bead 600Ω at 100MHz
5162	2422 549 43062	Bead 600Ω at 100MHz
5164	2422 549 43062	Bead 600Ω at 100MHz
5196	2422 549 43062	Bead 600Ω at 100MHz
5197	2422 549 43769	Bead 30Ω at 100MHz
5198	2422 549 43062	Bead 600Ω at 100MHz
5199	2422 549 43062	Bead 600Ω at 100MHz
5300	2422 549 43062	Bead 600Ω at 100MHz
5302	2422 549 43062	Bead 600Ω at 100MHz
5352	2422 549 43769	Bead 30Ω at 100MHz
5520	2422 549 43062	Bead 600Ω at 100MHz
5521	2422 549 43062	Bead 600Ω at 100MHz
5522	2422 549 43062	Bead 600Ω at 100MHz
5523	2422 549 43062	Bead 600Ω at 100MHz
5524	2422 549 43062	Bead 600Ω at 100MHz
5530	2422 549 43769	Bead 30Ω at 100MHz
5541	2422 549 43062	Bead 600Ω at 100MHz
5570	3198 018 51090	10μH 10% 0603
5572	2422 549 43769	Bead 30Ω at 100MHz
5574	2422 549 43062	Bead 600Ω at 100MHz
5628	2422 549 43062	Bead 600Ω at 100MHz
5630	2422 549 43062	Bead 600Ω at 100MHz
5642	2422 549 43062	Bead 600Ω at 100MHz
5643	2422 549 43062	Bead 600Ω at 100MHz
5644	2422 549 43062	Bead 600Ω at 100MHz
5645	2422 549 43062	Bead 600Ω at 100MHz
5646	2422 549 43062	Bead 600Ω at 100MHz
5647	2422 549 43062	Bead 600Ω at 100MHz
5648	2422 549 43062	Bead 600Ω at 100MHz
5649	2422 549 43062	Bead 600Ω at 100MHz
5670	2422 549 43062	Bead 600Ω at 100MHz
5672	2422 549 43062	Bead 600Ω at 100MHz
5673	2422 549 43062	Bead 600Ω at 100MHz
5796	2422 549 43062	Bead 600Ω at 100MHz
5810	2422 549 43062	Bead 600Ω at 100MHz
5820	2422 549 43062	Bead 600Ω at 100MHz
5822	2422 549 43769	Bead 30Ω at 100MHz
5834	2422 549 43769	Bead 30Ω at 100MHz
5870	2422 549 43769	Bead 30Ω at 100MHz

6007	9322 149 96685	BZX384-C2V4
6019	9322 149 96685	BZX384-C2V4
6166	9322 149 96685	BZX384-C2V4
6302	4822 130 10654	BAT254
6310	4822 130 10654	BAT254
6311	4822 130 10654	BAT254
6315	9340 548 71115	SM PDZ33B
6316	9340 548 71115	SM PDZ33B
6317	9340 548 71115	SM PDZ33B
6318	9340 548 71115	SM PDZ33B
6319	9340 548 71115	SM PDZ33B
6320	9340 548 71115	SM PDZ33B
6321	9340 548 71115	SM PDZ33B
6322	9340 548 71115	SM PDZ33B
6323	9340 548 71115	SM PDZ33B
6324	9340 548 71115	SM PDZ33B
6354	9340 548 71115	SM PDZ33B
6355	9340 548 71115	SM PDZ33B
6356	9340 548 71115	SM PDZ33B
6357	9340 548 71115	SM PDZ33B
6378	4822 130 83757	BAS216
6380	4822 130 10654	BAT254
6381	4822 130 10654	BAT254
6388	4822 130 11422	PLVA2650A
6393	4822 130 11422	PLVA2650A
6399	4822 130 11422	PLVA2650A
6503	9322 149 96685	BZX384-C2V4
6507	4822 130 10654	BAT254
6508	4822 130 10654	BAT254
6509	4822 130 10654	BAT254
6551	4822 130 10328	BAV99W
6552	4822 130 10328	BAV99W
6553	4822 130 10328	BAV99W
6554	4822 130 10328	BAV99W
6555	4822 130 10328	BAV99W
6630	4822 130 10654	BAT254
6710	9340 548 71115	SM PDZ33B
6711	9340 548 71115	SM PDZ33B
6720	9340 548 71115	SM PDZ33B
6721	9340 548 71115	SM PDZ33B
6730	9340 548 71115	SM PDZ33B
6731	9340 548 71115	SM PDZ33B
6740	9340 548 71115	SM PDZ33B
6741	9340 548 71115	SM PDZ33B
6802	9340 260 20115	BAW56W
6805	9340 260 20115	BAW56W
6807	9340 260 20115	BAW56W
6820	4822 130 10654	BAT254
6821	4822 130 11422	PLVA2650A

7145	3198 010 42310	BC847BW
7151	3198 010 42310	BC847BW
7157	3198 010 42310	BC847BW
7165	3198 010 42310	BC847BW
7170	9322 160 96671	AD9887KS-140
7175	4822 209 17398	LD1117DT33
7303	4822 209 30212	PC74HCT125T
7308	3198 010 42310	BC847BW
7310	3198 010 42310	BC847BW
7311	9322 145 66668	TSH93ID
7315	3198 010 42310	BC847BW
7316	3198 010 42310	BC847BW
7318	3198 010 42310	BC847BW
7320	3198 010 42310	BC847BW
7321	3198 010 42310	BC847BW
7322	3198 010 42310	BC847BW
7323	3198 010 42310	BC847BW
7325	3198 010 42310	BC847BW
7326	3198 010 42310	BC847BW
7328	3198 010 42310	BC847BW
7340	9337 153 10118	74HCT4052D
7352	9322 160 17668	ST202ECD
7370	4822 209 71585	74HCT4538N
7383	9352 684 81557	SAA5801H/015
7405	3198 010 42310	BC847BW
7406	3198 010 42310	BC847BW
7430	9322 156 81668	M24C32-WMN6TNKSA
7500	9322 157 20668	MSM51V18165F-60J
7510	9352 499 60118	74LVC00AD
7515	3198 010 42310	BC847BW
7516	3198 010 42320	BC857BW
7517	9322 158 67685	ADM810TART
7530	4822 209 90188	PCF8591T
7540	5322 209 33172	PCF8574AT
7550	5322 209 11598	PC74HCT4538T
7555	5322 209 11598	PC74HCT4538T
7563	3198 010 42310	BC847BW
7570	9322 137 99668	FS6377-01
7571	5322 209 11598	PC74HCT4538T
7574	9352 317 00118	74LVC125AD
7580	9322 156 81668	M24C32-WMN6TNKSA
7605	9322 158 73671	PW164-10R
7628	9322 164 75682	CY62126BVLL-70ZI
7640	4822 209 16406	TL431ACD
7641	9322 157 95668	STD16NE06L
7655	9322 141 53682	EPC2LC20
7670	9322 159 45668	DS90C385MTD
7675	9340 560 36235	BSH111
7676	9340 560 36235	BSH111
7714	4822 209 30095	LM833D
7801	3198 010 42310	BC847BW
7802	3198 010 42310	BC847BW
7803	3198 010 42320	BC857BW
7805	9340 547 13215	BSH103
7806	9340 547 13215	BSH103
7807	9340 547 13215	BSH103
7808	9340 547 13215	BSH103
7812	9322 167 63668	MSP3415G-QG-B8
7841	4822 209 30095	LM833D
7851	4822 209 30095	LM833D
7861	9322 173 77668	TS462CD
7870	9322 167 76668	TC74HC590AF
7874	9322 167 76668	TC74HC590AF
7879	3198 010 42310	BC847BW
7880	9322 153 66668	CY7C199-15ZC
7881	9351 869 80118	74HCT573DB
7882	9351 869 80118	74HCT573DB

VGA Connector Panel [VGA]

Various

0301	2422 025 17136	Connector 20P m
0305	2422 025 16705	Connector 12P m
0315	2422 025 16542	Connector 2P M
0318	2422 025 17183	Connector 32P f
0318	2422 025 17233	Connector 32P f
0319	2422 025 17047	Connector 13P m
0320	2422 025 16545	Connector 10P m
0371	2422 025 17027	Connector 15P F
0371	4822 267 51477	Socket 15P f
0372	2422 025 17027	Connector 15P F
0372	4822 267 51477	Socket 15P f
0374	2422 026 05276	Socket 1P f Orange
0382	2422 025 17253	Connector 10P m
0382	2422 025 17274	Connector 10P m
0385	2422 025 17253	Connector 10P m
0385	2422 025 17274	Connector 10P m
0388	2422 025 16703	Connector 7P m
0604	3122 357 00301	Software (check Prod.Surv.)
0605	3122 357 00311	Software (check Prod.Surv.)
1100	2422 086 11009	Fuse T1.A 63V 2410
1170	2422 086 11031	Fuse SMD 500mA 63V
1415	2422 543 89022	Xtal 6MHz 20pF CX5F
1570	2422 543 01115	Crystal 24.576MHz
1575	2422 086 11031	Fuse SMD 500mA 63V
1670	2422 086 11031	Fuse SMD 500mA 63V

⊣⊢

2007	4822 126 14305	100nF 10% 16V 0603
2009	4822 126 14305	100nF 10% 16V 0603
2061	4822 126 14305	100nF 10% 16V 0603
2066	4822 126 14305	100nF 10% 16V 0603
2090	4822 126 14305	100nF 10% 16V 0603
2097	3198 016 31080	1pF 25% 50V 0603
2103	3198 016 31080	1pF 25% 50V 0603
2142	4822 126 14305	100nF 10% 16V 0603
2144	5322 124 41945	22µF 20% 35V
2146	3198 017 34730	47nF 16V 0603
2147	5322 124 41945	22µF 20% 35V
2150	5322 124 41945	22µF 20% 35V
2151	3198 017 34730	47nF 16V 0603
2152	3198 017 34730	47nF 16V 0603
2153	5322 124 41945	22µF 20% 35V
2156	5322 124 41945	22µF 20% 35V
2158	3198 017 34730	47nF 16V 0603
2159	5322 124 41945	22µF 20% 35V
2164	4822 124 12095	100µF 20% 16V
2165	4822 126 14305	100nF 10% 16V 0603
2166	4822 126 14305	100nF 10% 16V 0603
2167	4822 124 12095	100µF 20% 16V
2170	4822 126 14305	100nF 10% 16V 0603
2171	4822 126 14305	100nF 10% 16V 0603
2172	4822 126 14305	100nF 10% 16V 0603
2173	4822 126 14305	100nF 10% 16V 0603
2174	4822 126 14305	100nF 10% 16V 0603
2175	4822 126 14305	100nF 10% 16V 0603
2176	4822 126 14305	100nF 10% 16V 0603
2177	4822 126 14305	100nF 10% 16V 0603
2178	4822 126 14305	100nF 10% 16V 0603
2179	4822 126 14305	100nF 10% 16V 0603
2180	4822 126 14305	100nF 10% 16V 0603
2181	4822 126 14305	100nF 10% 16V 0603
2182	4822 126 14305	100nF 10% 16V 0603
2183	4822 126 14305	100nF 10% 16V 0603
2184	4822 126 14305	100nF 10% 16V 0603
2185	4822 126 14305	100nF 10% 16V 0603
2186	4822 126 14305	100nF 10% 16V 0603
2187	4822 126 14305	100nF 10% 16V 0603
2188	4822 126 14305	100nF 10% 16V 0603
2189	4822 126 14305	100nF 10% 16V 0603
2190	4822 126 14305	100nF 10% 16V 0603
2191	4822 126 14305	100nF 10% 16V 0603
2192	4822 126 14305	100nF 10% 16V 0603
2193	4822 126 14305	100nF 10% 16V 0603
2195	4822 124 23002	10µF 20% 16V
2196	4822 124 23002	10µF 20% 16V
2197	4822 124 23002	10µF 20% 16V
2198	4822 124 23002	10µF 20% 16V
2199	4822 124 23002	10µF 20% 16V
2205	4822 126 14305	100nF 10% 16V 0603
2206	4822 126 14305	100nF 10% 16V 0603
2207	4822 126 14305	100nF 10% 16V 0603
2208	4822 126 14127	39nF 10% 50V 0805
2210	5322 126 11581	3.9nF 10% 63V 0603
2212	4822 126 14305	100nF 10% 16V 0603
2300	4822 124 12095	100µF 20% 16V
2301	4822 126 14305	100nF 10% 16V 0603
2302	4822 124 23002	10µF 20% 16V
2304	4822 126 14305	100nF 10% 16V 0603
2308	5322 124 41945	22µF 20% 35V
2310	4822 126 14305	100nF 10% 16V 0603
2311	4822 126 14305	100nF 10% 16V 0603
2318	5322 124 41945	22µF 20% 35V
2328	5322 124 41945	22µF 20% 35V
2340	4822 126 14305	100nF 10% 16V 0603
2351	4822 126 14305	100nF 10% 16V 0603
2352	4822 126 14305	100nF 10% 16V 0603
2353	4822 124 23002	10µF 20% 16V
2354	4822 126 14305	100nF 10% 16V 0603
2355	4822 126 14305	100nF 10% 16V 0603
2356	4822 126 14305	100nF 10% 16V 0603
2365	4822 126 14305	100nF 10% 16V 0603
2370	4822 126 14305	100nF 10% 16V 0603
2372	4822 126 14305	100nF 10% 16V 0603
2375	4822 126 14305	100nF 10% 16V 0603
2376	4822 126 14305	100nF 10% 16V 0603
2381	4822 126 14305	100nF 10% 16V 0603
2382	4822 126 14305	100nF 10% 16V 0603
2383	4822 126 14305	100nF 10% 16V 0603
2415	2238 867 75339	33pF 5% 50V 0603
2416	4822 126 11669	27pF 5% 50V 0603
2420	4822 126 14305	100nF 10% 16V 0603
2432	4822 126 14305	100nF 10% 16V 0603
2433	4822 126 14305	100nF 10% 16V 0603
2434	4822 126 14305	100nF 10% 16V 0603
2435	4822 126 14305	100nF 10% 16V 0603
2436	4822 126 14305	100nF 10% 16V 0603
2437	4822 126 14305	100nF 10% 16V 0603
2438	4822 126 13879	220nF 20% 16V
2439	4822 126 13879	220nF 20% 16V
2446	4822 126 14305	100nF 10% 16V 0603
2447	4822 126 14305	100nF 10% 16V 0603
2448	4822 126 14305	100nF 10% 16V 0603
2499	4822 126 14305	100nF 10% 16V 0603
2500	4822 126 14305	100nF 10% 16V 0603
2501	4822 126 14226	82pF 5% 50V 0603
2502	4822 126 14226	82pF 5% 50V 0603
2503	4822 126 14226	82pF 5% 50V 0603
2504	4822 126 14226	82pF 5% 50V 0603
2505	4822 126 14226	82pF 5% 50V 0603
2506	4822 126 14305	100nF 10% 16V 0603
2511	4822 126 14305	100nF 10% 16V 0603
2513	4822 126 14305	100nF 10% 16V 0603
2515	4822 126 14305	100nF 10% 16V 0603
2520	4822 124 23002	10µF 20% 16V
2521	4822 124 23002	10µF 20% 16V
2522	4822 124 23002	10µF 20% 16V
2523	4822 124 23002	10µF 20% 16V
2524	4822 124 23002	10µF 20% 16V
2530	5322 124 41945	22µF 20% 35V
2531	4822 126 14305	100nF 10% 16V 0603
2533	4822 126 14305	100nF 10% 16V 0603
2534	4822 126 14305	100nF 10% 16V 0603
2535	4822 126 14305	100nF 10% 16V 0603
2537	3198 016 31020	1nF 10% 25V 0603
2538	3198 016 31020	1nF 10% 25V 0603
2541	4822 126 14305	100nF 10% 16V 0603
2545	3198 016 31020	1nF 10% 25V 0603
2546	3198 016 31020	1nF 10% 25V 0603
2547	3198 016 31020	1nF 10% 25V 0603
2548	3198 016 31020	1nF 10% 25V 0603
2550	3198 016 31020	1nF 10% 25V 0603
2551	3198 016 31020	1nF 10% 25V 0603
2552	3198 016 31020	1nF 10% 25V 0603
2553	3198 016 31020	1nF 10% 25V 0603
2557	3198 016 31020	1nF 10% 25V 0603
2558	3198 016 31020	1nF 10% 25V 0603
2559	3198 016 31020	1nF 10% 25V 0603
2560	3198 016 31020	1nF 10% 25V 0603
2562	3198 016 31020	1nF 10% 25V 0603
2563	3198 016 31020	1nF 10% 25V 0603
2564	3198 016 31020	1nF 10% 25V 0603
2565	3198 016 31020	1nF 10% 25V 0603
2566	3198 016 31020	1nF 10% 25V 0603
2570	3198 016 31020	1nF 10% 25V 0603
2572	4822 126 14305	100nF 10% 16V 0603
2573	4822 124 23002	10µF 20% 16V
2574	4822 126 14305	100nF 10% 16V 0603
2583	4822 126 14305	100nF 10% 16V 0603
2600	4822 126 14305	100nF 10% 16V 0603
2601	4822 126 14305	100nF 10% 16V 0603
2602	4822 126 14305	100nF 10% 16V 0603
2603	4822 126 14305	100nF 10% 16V 0603
2604	4822 126 14305	100nF 10% 16V 0603
2605	4822 126 14305	100nF 10% 16V 0603
2606	4822 126 14305	100nF 10% 16V 0603
2607	4822 126 14305	100nF 10% 16V 0603
2608	4822 126 14305	100nF 10% 16V 0603
2609	4822 126 14305	100nF 10% 16V 0603
2610	4822 126 14305	100nF 10% 16V 0603
2611	4822 126 14305	100nF 10% 16V 0603
2612	4822 126 14305	100nF 10% 16V 0603
2613	4822 126 14305	100nF 10% 16V 0603
2614	4822 126 14305	100nF 10% 16V 0603
2615	4822 126 14305	100nF 10% 16V 0603
2616	4822 126 14305	100nF 10% 16V 0603
2617	4822 126 14305	100nF 10% 16V 0603
2618	4822 126 14305	100nF 10% 16V 0603
2619	4822 126 14305	100nF 10% 16V 0603
2620	4822 126 14305	100nF 10% 16V 0603
2621	4822 126 14305	100nF 10% 16V 0603
2622	4822 126 14305	100nF 10% 16V 0603
2623	4822 126 14305	100nF 10% 16V 0603
2624	4822 126 14305	100nF 10% 16V 0603
2625	4822 126 14305	100nF 10% 16V 0603
2628	4822 126 14305	100nF 10% 16V 0603
2629	4822 122 33741	10pF 10% 50V
2630	4822 126 14305	100nF 10% 16V 0603
2640	4822 126 14305	100nF 10% 16V 0603
2641	3198 016 31020	1nF 10% 25V 0603
2642	4822 124 23002	10µF 20% 16V
2643	4822 124 23002	10µF 20% 16V
2644	4822 124 23002	10µF 20% 16V
2645	4822 124 23002	10µF 20% 16V
2646	4822 124 23002	10µF 20% 16V
2647	4822 124 23002	10µF 20% 16V
2648	4822 124 23002	10µF 20% 16V
2649	4822 124 23002	10µF 20% 16V
2655	4822 126 14305	100nF 10% 16V 0603
2656	4822 126 14305	100nF 10% 16V 0603
2657	4822 126 14305	100nF 10% 16V 0603
2658	4822 126 14305	100nF 10% 16V 0603
2659	4822 126 14305	100nF 10% 16V 0603
2660	4822 126 14305	100nF 10% 16V 0603
2661	4822 126 14305	100nF 10% 16V 0603
2662	4822 126 14305	100nF 10% 16V 0603
2663	4822 126 14305	100nF 10% 16V 0603
2670	4822 126 14305	100nF 10% 16V 0603
2671	4822 126 14305	100nF 10% 16V 0603
2672	4822 126 14305	100nF 10% 16V 0603
2673	4822 126 14305	100nF 10% 16V 0603
2694	3198 016 31080	1pF 25% 50V 0603
2695	3198 016 31080	1pF 25% 50V 0603
2696	3198 016 31080	1pF 25% 50V 0603
2697	3198 016 31080	1pF 25% 50V 0603
2698	3198 016 31080	1pF 25% 50V 0603
2699	3198 016 31080	1pF 25% 50V 0603
2711	4822 122 31765	100pF 2% 63V
2712	4822 126 14472	1µF 10% 10V 0805
2715	4822 126 14305	100nF 10% 16V 0603
2716	4822 122 33777	47pF 5% 63V
2717	4822 126 14472	1µF 10% 10V 0805
2721	4822 122 31765	100pF 2% 63V
2722	4822 126 14472	1µF 10% 10V 0805
2726	4822 122 33777	47pF 5% 63V
2727	4822 126 14472	1µF 10% 10V 0805
2731	4822 122 31765	100pF 2% 63V
2741	4822 122 31765	100pF 2% 63V
2799	5322 124 41945	22µF 20% 35V
2800	4822 124 12095	100µF 20% 16V
2802	4822 124 23002	10µF 20% 16V
2803	4822 124 23002	10µF 20% 16V
2804	3198 016 31020	1nF 10% 25V 0603
2810	4822 124 12095	100µF 20% 16V
2811	3198 016 31020	1nF 10% 25V 0603
2812	3198 016 31020	1nF 10% 25V 0603
2813	3198 016 31020	1nF 10% 25V 0603
2814	4822 126 14585	100nF 10% 50V
2815	3198 016 31020	1nF 10% 25V 0603
2816	4822 124 23002	10µF 20% 16V
2817	4822 126 14305	100nF 10% 16V 0603
2818	3198 016 31020	1nF 10% 25V 0603
2819	3198 016 31020	1nF 10% 25V 0603
2820	4822 124 23002	10µF 20% 16V
2821	4822 124 23002	10µF 20% 16V
2822	4822 126 14247	1.5nF 50V 0603
2823	4822 124 23002	10µF 20% 16V
2824	4822 126 14247	1.5nF 50V 0603
2825	3198 016 31020	1nF 10% 25V 0603
2826	4822 126 14472	1µF 10% 10V 0805
2827	4822 126 14472	1µF 10% 10V 0805
2828	3198 016 31020	1nF 10% 25V 0603
2829	4822 124 23002	10µF 20% 16V
2830	4822 126 14305	100nF 10% 16V 0603
2833	4822 126 14247	1.5nF 50V 0603
2834	4822 124 23002	10µF 20% 16V
2837	4822 126 13881	470pF 5% 50V
2838	4822 126 13881	470pF 5% 50V
2839	4822 126 13881	470pF 5% 50V
2840	4822 126 11669	27pF 5% 50V 0603
2842	4822 126 14305	100nF 10% 16V 0603
2843	4822 126 11669	27pF 5% 50V 0603
2844	3198 016 31020	1nF 10% 25V 0603

2845	4822 126 13883	220pF 5% 50V
2848	4822 126 11669	27pF 5% 50V 0603
2849	3198 016 31020	1nF 10% 25V 0603
2850	4822 126 11669	27pF 5% 50V 0603
2852	4822 126 14305	100nF 10% 16V 0603
2853	4822 126 11669	27pF 5% 50V 0603
2854	3198 016 31020	1nF 10% 25V 0603
2857	3198 016 31020	1nF 10% 25V 0603
2858	4822 126 11669	27pF 5% 50V 0603
2861	4822 126 14305	100nF 10% 16V 0603
2862	4822 122 33777	47pF 5% 63V
2863	4822 126 14472	1µF 10% 10V 0805
2865	4822 122 33777	47pF 5% 63V
2867	3198 016 31020	1nF 10% 25V 0603
2868	4822 126 14472	1µF 10% 10V 0805
2870	4822 126 14305	100nF 10% 16V 0603
2874	4822 126 14305	100nF 10% 16V 0603
2879	4822 126 11669	27pF 5% 50V 0603
2880	4822 126 14305	100nF 10% 16V 0603
2881	4822 126 14305	100nF 10% 16V 0603
2882	4822 126 14305	100nF 10% 16V 0603
2901	2238 586 59812	100nF 20-80% 50V 0603
2901	4822 126 14305	100nF 10% 16V 0603
2902	2238 586 59812	100nF 20-80% 50V 0603
2902	4822 126 14305	100nF 10% 16V 0603
2909	2238 586 59812	100nF 20-80% 50V 0603
2909	4822 126 14305	100nF 10% 16V 0603
2910	2238 586 59812	100nF 20-80% 50V 0603
2910	4822 126 14305	100nF 10% 16V 0603
2925	2020 552 94427	100pF 5% 50v 0603

3060	4822 051 30103	10kΩ 5% 0.062W
3061	4822 051 30472	4.7kΩ 5% 0.062W
3065	4822 051 30103	10kΩ 5% 0.062W
3066	4822 051 30472	4.7kΩ 5% 0.062W
3144	4822 051 30271	270Ω 5% 0.062W
3145	4822 051 30223	22kΩ 5% 0.062W
3146	4822 051 30561	560Ω 5% 0.062W
3147	4822 051 30271	270Ω 5% 0.062W
3148	4822 051 30223	22kΩ 5% 0.062W
3149	4822 051 30561	560Ω 5% 0.062W
3150	4822 051 30271	270Ω 5% 0.062W
3151	4822 051 30223	22kΩ 5% 0.062W
3152	4822 051 30561	560Ω 5% 0.062W
3153	4822 051 30271	270Ω 5% 0.062W
3154	4822 051 30223	22kΩ 5% 0.062W
3155	4822 051 30561	560Ω 5% 0.062W
3156	4822 051 30271	270Ω 5% 0.062W
3157	4822 051 30223	22kΩ 5% 0.062W
3158	4822 051 30561	560Ω 5% 0.062W
3159	4822 051 30271	270Ω 5% 0.062W
3160	4822 051 30223	22kΩ 5% 0.062W
3161	4822 051 30561	560Ω 5% 0.062W
3164	4822 051 30471	470Ω 5% 0.062W
3200	4822 051 30101	100Ω 5% 0.062W
3201	4822 051 30008	Jumper 0603
3203	4822 051 30101	100Ω 5% 0.062W
3204	4822 051 30101	100Ω 5% 0.062W
3205	4822 051 30101	100Ω 5% 0.062W
3206	4822 051 30102	1kΩ 5% 0.062W
3207	4822 051 30103	10kΩ 5% 0.062W
3208	4822 051 30332	3.3kΩ 5% 0.062W
3209	4822 051 30101	100Ω 5% 0.062W
3210	4822 051 30101	100Ω 5% 0.062W
3211	4822 051 30102	1kΩ 5% 0.062W
3212	4822 051 30102	1kΩ 5% 0.062W
3294	4822 051 30333	33kΩ 5% 0.062W
3295	4822 051 30102	1kΩ 5% 0.062W
3296	4822 051 30474	470kΩ 5% 0.062W
3300	4822 051 30153	15kΩ 5% 0.062W
3304	4822 051 30689	68Ω 5% 0.063W 0603
3305	4822 051 30472	4.7kΩ 5% 0.062W
3306	4822 051 30153	15kΩ 5% 0.062W
3307	4822 051 30472	4.7kΩ 5% 0.062W
3308	4822 051 30271	270Ω 5% 0.062W
3309	4822 051 30273	27kΩ 5% 0.062W
3310	4822 051 30102	1kΩ 5% 0.062W
3311	4822 051 30102	1kΩ 5% 0.062W
3312	4822 117 12903	1.8kΩ 1% 0.063W 0603
3313	4822 051 30103	10kΩ 5% 0.062W
3314	4822 117 12903	1.8kΩ 1% 0.063W 0603
3316	4822 051 30153	15kΩ 5% 0.062W
3317	4822 051 30472	4.7kΩ 5% 0.062W
3318	4822 051 30271	270Ω 5% 0.062W
3319	4822 051 30273	27kΩ 5% 0.062W
3320	4822 051 30102	1kΩ 5% 0.062W
3321	4822 051 30102	1kΩ 5% 0.062W
3322	4822 117 12903	1.8kΩ 1% 0.063W 0603
3323	4822 051 30103	10kΩ 5% 0.062W
3324	4822 117 12903	1.8kΩ 1% 0.063W 0603
3326	4822 051 30333	33kΩ 5% 0.062W
3327	4822 051 30102	1kΩ 5% 0.062W
3328	4822 051 30271	270Ω 5% 0.062W
3329	4822 051 30273	27kΩ 5% 0.062W
3330	4822 051 30102	1kΩ 5% 0.062W
3331	4822 051 30102	1kΩ 5% 0.062W
3332	4822 117 12903	1.8kΩ 1% 0.063W 0603
3333	4822 051 30103	10kΩ 5% 0.062W
3334	4822 117 12903	1.8kΩ 1% 0.063W 0603
3336	4822 051 30103	10kΩ 5% 0.062W
3337	4822 051 30103	10kΩ 5% 0.062W
3338	4822 051 30333	33kΩ 5% 0.062W
3339	4822 051 30103	10kΩ 5% 0.062W
3340	4822 051 30103	10kΩ 5% 0.062W
3341	4822 051 30333	33kΩ 5% 0.062W
3342	4822 051 30102	1kΩ 5% 0.062W
3343	4822 051 30333	33kΩ 5% 0.062W
3344	4822 051 30472	4.7kΩ 5% 0.062W
3345	4822 051 30101	100Ω 5% 0.062W
3346	4822 051 30103	10kΩ 5% 0.062W
3347	4822 051 30101	100Ω 5% 0.062W
3348	4822 117 13632	100kΩ 1% 0603 0.62W
3349	4822 051 30103	10kΩ 5% 0.062W
3350	4822 051 30101	100Ω 5% 0.062W
3351	4822 051 30689	68Ω 5% 0.063W 0603
3352	4822 051 30103	10kΩ 5% 0.062W
3353	4822 051 30101	100Ω 5% 0.062W
3354	4822 051 30101	100Ω 5% 0.062W
3355	4822 051 30103	10kΩ 5% 0.062W
3359	4822 051 30689	68Ω 5% 0.063W 0603
3360	4822 051 30103	10kΩ 5% 0.062W
3361	4822 051 30472	4.7kΩ 5% 0.062W
3362	4822 051 30103	10kΩ 5% 0.062W
3363	4822 051 30472	4.7kΩ 5% 0.062W
3364	4822 051 30103	10kΩ 5% 0.062W
3365	4822 051 30474	470kΩ 5% 0.062W
3366	4822 117 12925	47kΩ 1% 0.063W 0603
3370	4822 051 30682	6.8kΩ 5% 0.062W
3371	4822 051 30101	100Ω 5% 0.062W
3372	4822 051 30103	10kΩ 5% 0.062W
3373	4822 051 30222	2.2kΩ 5% 0.062W
3374	4822 051 30102	1kΩ 5% 0.062W
3375	4822 117 13632	100kΩ 1% 0603 0.62W
3376	4822 051 30472	4.7kΩ 5% 0.062W
3377	4822 051 30101	100Ω 5% 0.062W
3378	4822 051 30102	1kΩ 5% 0.062W
3379	4822 051 30222	2.2kΩ 5% 0.062W
3380	3198 031 11010	4 x 100Ω 5% 1206
3381	3198 031 11010	4 x 100Ω 5% 1206
3382	3198 031 11010	4 x 100Ω 5% 1206
3383	3198 031 11010	4 x 100Ω 5% 1206
3384	4822 051 30101	100Ω 5% 0.062W
3385	4822 051 30102	1kΩ 5% 0.062W
3386	4822 051 30222	2.2kΩ 5% 0.062W
3388	4822 051 30102	1kΩ 5% 0.062W
3390	4822 051 30102	1kΩ 5% 0.062W
3391	4822 051 30333	33kΩ 5% 0.062W
3392	4822 051 30101	100Ω 5% 0.062W
3393	4822 051 30102	1kΩ 5% 0.062W
3394	3198 031 11010	4 x 100Ω 5% 1206
3398	3198 031 11010	4 x 100Ω 5% 1206
3400	4822 051 30102	1kΩ 5% 0.062W
3402	3198 031 11010	4 x 100Ω 5% 1206
3404	3198 031 11010	4 x 100Ω 5% 1206
3406	3198 031 11010	4 x 100Ω 5% 1206
3410	4822 051 30222	2.2kΩ 5% 0.062W
3411	4822 051 30332	3.3kΩ 5% 0.062W
3413	4822 051 30222	2.2kΩ 5% 0.062W
3414	4822 051 30222	2.2kΩ 5% 0.062W
3415	4822 051 30222	2.2kΩ 5% 0.062W
3417	4822 051 30221	220Ω 5% 0.062W
3418	4822 051 30102	1kΩ 5% 0.062W
3419	4822 051 30392	3.9kΩ 5% 0.063W 0603
3420	4822 051 30222	2.2kΩ 5% 0.062W
3421	4822 051 30102	1kΩ 5% 0.062W
3422	4822 051 30152	1.5kΩ 5% 0.062W
3423	4822 117 12925	47kΩ 1% 0.063W 0603
3424	4822 051 30332	3.3kΩ 5% 0.062W
3426	4822 051 30332	3.3kΩ 5% 0.062W
3428	4822 051 30101	100Ω 5% 0.062W
3429	4822 051 30101	100Ω 5% 0.062W
3430	4822 051 30472	4.7kΩ 5% 0.062W
3431	4822 051 30101	100Ω 5% 0.062W
3432	4822 051 30472	4.7kΩ 5% 0.062W
3433	4822 051 30101	100Ω 5% 0.062W
3435	4822 051 30273	27kΩ 5% 0.062W
3436	4822 117 12891	220kΩ 1% 0.063W 0603
3448	3198 031 11010	4 x 100Ω 5% 1206
3449	3198 031 11010	4 x 100Ω 5% 1206
3450	4822 051 30101	100Ω 5% 0.062W
3451	3198 031 11010	4 x 100Ω 5% 1206
3452	3198 031 11010	4 x 100Ω 5% 1206
3453	3198 031 11010	4 x 100Ω 5% 1206
3460	3198 031 11010	4 x 100Ω 5% 1206
3461	3198 031 11010	4 x 100Ω 5% 1206
3462	3198 031 11010	4 x 100Ω 5% 1206
3463	3198 031 11010	4 x 100Ω 5% 1206
3464	3198 031 11010	4 x 100Ω 5% 1206
3483	4822 051 30471	470Ω 5% 0.062W
3485	4822 051 30222	2.2kΩ 5% 0.062W
3486	4822 051 30222	2.2kΩ 5% 0.062W
3487	4822 051 30222	2.2kΩ 5% 0.062W
3488	4822 051 30222	2.2kΩ 5% 0.062W
3489	4822 051 30222	2.2kΩ 5% 0.062W
3490	4822 051 30102	1kΩ 5% 0.062W
3494	3198 031 14710	4 x 470Ω 5% 1206
3506	4822 051 30332	3.3kΩ 5% 0.062W
3507	4822 051 30472	4.7kΩ 5% 0.062W
3510	4822 051 30102	1kΩ 5% 0.062W
3511	4822 051 30222	2.2kΩ 5% 0.062W
3512	4822 051 30562	5.6kΩ 5% 0.063W 0603
3513	4822 051 30332	3.3kΩ 5% 0.062W
3514	4822 051 30472	4.7kΩ 5% 0.062W
3515	4822 117 12925	47kΩ 1% 0.063W 0603
3516	4822 117 12925	47kΩ 1% 0.063W 0603
3517	4822 051 30102	1kΩ 5% 0.062W
3518	4822 117 13632	100kΩ 1% 0603 0.62W
3530	4822 051 30101	100Ω 5% 0.062W
3531	4822 051 30101	100Ω 5% 0.062W
3532	4822 051 30101	100Ω 5% 0.062W
3533	4822 051 30103	10kΩ 5% 0.062W
3534	4822 051 30103	10kΩ 5% 0.062W
3535	4822 051 30103	10kΩ 5% 0.062W
3536	4822 051 30103	10kΩ 5% 0.062W
3537	4822 051 30103	10kΩ 5% 0.062W
3538	4822 051 30103	10kΩ 5% 0.062W
3539	4822 051 30103	10kΩ 5% 0.062W
3540	4822 051 30101	100Ω 5% 0.062W
3541	4822 051 30101	100Ω 5% 0.062W
3545	4822 051 30221	220Ω 5% 0.062W
3547	4822 051 30102	1kΩ 5% 0.062W
3548	4822 051 30102	1kΩ 5% 0.062W
3550	4822 051 30101	100Ω 5% 0.062W
3551	4822 051 30101	100Ω 5% 0.062W
3552	4822 051 30101	100Ω 5% 0.062W
3553	4822 051 30101	100Ω 5% 0.062W
3554	4822 051 30103	10kΩ 5% 0.062W
3557	4822 051 30101	100Ω 5% 0.062W
3558	4822 051 30101	100Ω 5% 0.062W
3559	4822 051 30101	100Ω 5% 0.062W
3560	4822 051 30101	100Ω 5% 0.062W
3562	4822 051 30103	10kΩ 5% 0.062W
3570	4822 051 30101	100Ω 5% 0.062W
3571	4822 051 30101	100Ω 5% 0.062W
3575	4822 051 30102	1kΩ 5% 0.062W
3580	4822 051 30472	4.7kΩ 5% 0.062W
3581	4822 051 30101	100Ω 5% 0.062W
3582	4822 051 30101	100Ω 5% 0.062W
3583	4822 051 30472	4.7kΩ 5% 0.062W
3590	4822 051 30332	3.3kΩ 5% 0.062W
3591	4822 051 30332	3.3kΩ 5% 0.062W
3592	4822 051 30332	3.3kΩ 5% 0.062W
3593	4822 051 30332	3.3kΩ 5% 0.062W
3600	4822 051 30332	3.3kΩ 5% 0.062W
3601	4822 051 30332	3.3kΩ 5% 0.062W
3602	4822 051 30101	100Ω 5% 0.062W
3603	4822 051 30101	100Ω 5% 0.062W
3604	4822 051 30101	100Ω 5% 0.062W
3605	4822 051 30101	100Ω 5% 0.062W
3606	4822 051 30101	100Ω 5% 0.062W
3607	4822 051 30101	100Ω 5% 0.062W
3608	4822 051 30101	100Ω 5% 0.062W
3609	4822 051 30101	100Ω 5% 0.062W
3610	4822 051 30479	47Ω 5% 0.062W
3615	4822 051 30101	100Ω 5% 0.062W
3620	4822 051 30103	10kΩ 5% 0.062W
3621	4822 051 30103	10kΩ 5% 0.062W
3622	4822 051 30479	47Ω 5% 0.062W
3623	4822 051 30102	1kΩ 5% 0.062W
3628	4822 051 30101	100Ω 5% 0.062W
3630	4822 051 30102	1kΩ 5% 0.062W
3631	4822 051 30102	1kΩ 5% 0.062W
3632	4822 051 30332	3.3kΩ 5% 0.062W
3633	4822 051 30472	4.7kΩ 5% 0.062W
3634	4822 051 30332	3.3kΩ 5% 0.062W
3635	4822 051 30103	10kΩ 5% 0.062W
3636	4822 051 30332	3.3kΩ 5% 0.062W
3640	4822 051 30222	2.2kΩ 5% 0.062W
3641	4822 051 30102	1kΩ 5% 0.062W
3653	4822 051 30102	1kΩ 5% 0.062W
3654	4822 051 30102	1kΩ 5% 0.062W
3655	4822 051 30102	1kΩ 5% 0.062W
3657	4822 051 30103	10kΩ 5% 0.062W
3658	4822 051 30103	10kΩ 5% 0.062W
3660	4822 051 30101	100Ω 5% 0.062W
3661	4822 051 30101	100Ω 5% 0.062W
3662	4822 051 30101	100Ω 5% 0.062W
3663	4822 051 30101	100Ω 5% 0.062W
3664	4822 051 30101	100Ω 5% 0.062W

3670	4822 051 30222	2.2kΩ 5% 0.062W
3673	4822 051 30103	10kΩ 5% 0.062W
3674	4822 051 30101	100Ω 5% 0.062W
3675	4822 051 30103	10kΩ 5% 0.062W
3676	4822 051 30101	100Ω 5% 0.062W
3677	4822 051 30101	100Ω 5% 0.062W
3678	4822 051 30102	1kΩ 5% 0.062W
3679	4822 051 30101	100Ω 5% 0.062W
3680	4822 051 30101	100Ω 5% 0.062W
3681	4822 051 30222	2.2kΩ 5% 0.062W
3682	4822 051 30471	470Ω 5% 0.062W
3684	4822 051 30101	100Ω 5% 0.062W
3685	4822 051 30222	2.2kΩ 5% 0.062W
3686	4822 051 30471	470Ω 5% 0.062W
3710	4822 051 30333	33kΩ 5% 0.062W
3711	4822 051 30102	1kΩ 5% 0.062W
3713	4822 051 30101	100Ω 5% 0.062W
3714	4822 051 30223	22kΩ 5% 0.062W
3716	4822 051 30153	15kΩ 5% 0.062W
3720	4822 051 30333	33kΩ 5% 0.062W
3721	4822 051 30102	1kΩ 5% 0.062W
3723	4822 051 30101	100Ω 5% 0.062W
3724	4822 051 30223	22kΩ 5% 0.062W
3726	4822 051 30153	15kΩ 5% 0.062W
3730	4822 051 30333	33kΩ 5% 0.062W
3731	4822 051 30331	330Ω 5% 0.062W
3740	4822 051 30333	33kΩ 5% 0.062W
3741	4822 051 30331	330Ω 5% 0.062W
3796	4822 051 30472	4.7kΩ 5% 0.062W
3797	4822 051 30472	4.7kΩ 5% 0.062W
3798	4822 051 30333	33kΩ 5% 0.062W
3800	4822 051 30331	330Ω 5% 0.062W
3801	4822 051 30331	330Ω 5% 0.062W
3802	4822 051 30333	33kΩ 5% 0.062W
3803	4822 117 13632	100kΩ 1% 0603 0.62W
3804	4822 051 30333	33kΩ 5% 0.062W
3805	4822 117 13632	100kΩ 1% 0603 0.62W
3806	4822 117 13632	100kΩ 1% 0603 0.62W
3807	4822 117 13632	100kΩ 1% 0603 0.62W
3808	4822 117 13632	100kΩ 1% 0603 0.62W
3810	4822 051 30472	4.7kΩ 5% 0.062W
3811	4822 051 30472	4.7kΩ 5% 0.062W
3812	4822 051 30101	100Ω 5% 0.062W
3813	4822 051 30101	100Ω 5% 0.062W
3814	4822 051 30333	33kΩ 5% 0.062W
3815	4822 051 30101	100Ω 5% 0.062W
3816	4822 051 30101	100Ω 5% 0.062W
3820	4822 051 30333	33kΩ 5% 0.062W
3821	4822 051 30103	10kΩ 5% 0.062W
3822	4822 051 30333	33kΩ 5% 0.062W
3840	4822 051 30223	22kΩ 5% 0.062W
3841	4822 051 30223	22kΩ 5% 0.062W
3843	4822 051 30393	39kΩ 5% 0.062W
3844	4822 051 30101	100Ω 5% 0.062W
3845	4822 051 30101	100Ω 5% 0.062W
3846	4822 051 30223	22kΩ 5% 0.062W
3847	4822 051 30393	39kΩ 5% 0.062W
3848	4822 051 30393	39kΩ 5% 0.062W
3849	4822 051 30101	100Ω 5% 0.062W
3850	4822 051 30223	22kΩ 5% 0.062W
3851	4822 051 30223	22kΩ 5% 0.062W
3853	4822 051 30393	39kΩ 5% 0.062W
3854	4822 051 30101	100Ω 5% 0.062W
3855	4822 051 30101	100Ω 5% 0.062W
3856	4822 051 30223	22kΩ 5% 0.062W
3857	4822 051 30393	39kΩ 5% 0.062W
3858	4822 051 30393	39kΩ 5% 0.062W
3859	4822 051 30101	100Ω 5% 0.062W
3860	4822 051 30332	3.3kΩ 5% 0.062W
3861	4822 051 30223	22kΩ 5% 0.062W
3862	4822 051 30273	27kΩ 5% 0.062W
3863	4822 051 30332	3.3kΩ 5% 0.062W
3864	4822 051 30223	22kΩ 5% 0.062W
3865	4822 051 30273	27kΩ 5% 0.062W
3866	4822 051 30101	100Ω 5% 0.062W
3867	4822 051 30101	100Ω 5% 0.062W
3870	4822 051 30101	100Ω 5% 0.062W
3879	4822 117 12925	47kΩ 1% 0.063W 0603
3880	4822 051 30471	470Ω 5% 0.062W
3900	4822 051 30331	330Ω 5% 0.062W
3900	4822 051 30472	4.7kΩ 5% 0.062W
3900	4822 051 30759	75Ω 5% 0.062W
3901	4822 051 30331	330Ω 5% 0.062W
3901	4822 051 30333	33kΩ 5% 0.062W
3901	4822 051 30759	75Ω 5% 0.062W
3902	4822 051 30331	330Ω 5% 0.062W
3902	4822 051 30759	75Ω 5% 0.062W
3903	4822 051 30101	100Ω 5% 0.062W
3904	4822 051 30103	10kΩ 5% 0.062W
3905	4822 051 30103	10kΩ 5% 0.062W
3906	4822 051 30101	100Ω 5% 0.062W
3906	4822 051 30103	10kΩ 5% 0.062W
3907	4822 051 30101	100Ω 5% 0.062W
3907	4822 051 30103	10kΩ 5% 0.062W
3908	4822 051 30101	100Ω 5% 0.062W
3908	4822 051 30103	10kΩ 5% 0.062W
3909	4822 051 30101	100Ω 5% 0.062W
3910	4822 051 30102	1kΩ 5% 0.062W
3910	4822 051 30103	10kΩ 5% 0.062W
3911	4822 051 30101	100Ω 5% 0.062W
3911	4822 117 12925	47kΩ 1% 0.063W 0603
3912	4822 051 30102	1kΩ 5% 0.062W
3912	4822 051 30472	4.7kΩ 5% 0.062W
3913	4822 051 30101	100Ω 5% 0.062W
3914	4822 051 30102	1kΩ 5% 0.062W
3915	4822 051 30101	100Ω 5% 0.062W
3916	4822 051 30101	100Ω 5% 0.062W
3917	4822 051 30103	10kΩ 5% 0.062W
3918	4822 051 30103	10kΩ 5% 0.062W
3919	4822 051 30101	100Ω 5% 0.062W
3920	4822 051 30101	100Ω 5% 0.062W
3921	4822 051 30103	10kΩ 5% 0.062W
3922	4822 051 30101	100Ω 5% 0.062W
3923	4822 051 30102	1kΩ 5% 0.062W
3924	4822 051 30101	100Ω 5% 0.062W
3925	4822 051 30102	1kΩ 5% 0.062W
3926	4822 051 30101	100Ω 5% 0.062W
3927	4822 051 30472	4.7kΩ 5% 0.062W
3928	4822 051 30472	4.7kΩ 5% 0.062W
3929	4822 051 30472	4.7kΩ 5% 0.062W
3930	4822 051 30472	4.7kΩ 5% 0.062W
3934	4822 051 30103	10kΩ 5% 0.062W
3935	4822 051 30333	33kΩ 5% 0.062W
3999	4822 051 30152	1.5kΩ 5% 0.062W
4006	4822 051 30008	Jumper 0603
4007	4822 051 30008	Jumper 0603
4009	4822 051 30008	Jumper 0603
4010	4822 051 30008	Jumper 0603
4146	4822 051 30008	Jumper 0603
4152	4822 051 30008	Jumper 0603
4158	4822 051 30008	Jumper 0603
4200	4822 051 30008	Jumper 0603
4250	4822 051 30008	Jumper 0603
4315	4822 051 30008	Jumper 0603
4325	4822 051 30008	Jumper 0603
4335	4822 051 30008	Jumper 0603
4381	4822 051 30008	Jumper 0603
4431	4822 051 30008	Jumper 0603
4500	4822 051 30008	Jumper 0603
4505	4822 051 30008	Jumper 0603
4506	4822 051 30008	Jumper 0603
4572	4822 051 30008	Jumper 0603
4574	4822 051 30008	Jumper 0603
4581	4822 051 30008	Jumper 0603
4591	4822 051 30008	Jumper 0603
4659	4822 051 30008	Jumper 0603
4794	4822 051 30008	Jumper 0603
4797	4822 051 30008	Jumper 0603
4800	4822 051 30008	Jumper 0603
4801	4822 051 30008	Jumper 0603
4810	4822 051 30008	Jumper 0603
4811	4822 051 30008	Jumper 0603
4834	4822 051 30008	Jumper 0603
4871	4822 051 30008	Jumper 0603
4874	4822 051 30008	Jumper 0603
4875	4822 051 30008	Jumper 0603
4884	4822 051 30008	Jumper 0603
4894	4822 051 30008	Jumper 0603

5008	4822 157 11074	Bead 600Ω at 100MHz
5140	4822 157 11074	Bead 600Ω at 100MHz
5164	4822 157 11074	Bead 600Ω at 100MHz
5196	4822 157 11074	Bead 600Ω at 100MHz
5197	4822 157 11074	Bead 600Ω at 100MHz
5198	4822 157 11074	Bead 600Ω at 100MHz
5199	4822 157 11074	Bead 600Ω at 100MHz
5300	4822 157 11074	Bead 600Ω at 100MHz
5302	4822 157 11074	Bead 600Ω at 100MHz
5352	4822 157 11074	Bead 600Ω at 100MHz
5520	4822 157 11074	Bead 600Ω at 100MHz
5521	4822 157 11074	Bead 600Ω at 100MHz
5522	4822 157 11074	Bead 600Ω at 100MHz
5523	4822 157 11074	Bead 600Ω at 100MHz
5524	4822 157 11074	Bead 600Ω at 100MHz
5530	4822 157 11074	Bead 600Ω at 100MHz
5541	4822 157 11074	Bead 600Ω at 100MHz
5570	3198 018 51090	10µH 10% 0603
5572	4822 157 11074	Bead 600Ω at 100MHz
5574	4822 157 11074	Bead 600Ω at 100MHz
5628	4822 157 11074	Bead 600Ω at 100MHz
5630	4822 157 11074	Bead 600Ω at 100MHz
5642	4822 157 11074	Bead 600Ω at 100MHz
5643	4822 157 11074	Bead 600Ω at 100MHz
5644	4822 157 11074	Bead 600Ω at 100MHz
5645	4822 157 11074	Bead 600Ω at 100MHz
5646	4822 157 11074	Bead 600Ω at 100MHz
5647	4822 157 11074	Bead 600Ω at 100MHz
5648	4822 157 11074	Bead 600Ω at 100MHz
5649	4822 157 11074	Bead 600Ω at 100MHz
5670	4822 157 11074	Bead 600Ω at 100MHz
5672	4822 157 11074	Bead 600Ω at 100MHz
5673	4822 157 11074	Bead 600Ω at 100MHz
5796	4822 157 11074	Bead 600Ω at 100MHz
5810	4822 157 11074	Bead 600Ω at 100MHz
5820	4822 157 11074	Bead 600Ω at 100MHz
5822	4822 157 11074	Bead 600Ω at 100MHz
5834	4822 157 11074	Bead 600Ω at 100MHz
5870	4822 157 11074	Bead 600Ω at 100MHz
5900	2422 549 43062	Bead 600Ω at 100MHz
5900	4822 157 11074	Bead 600Ω at 100MHz
5901	2422 549 43062	Bead 600Ω at 100MHz
5901	4822 157 11074	Bead 600Ω at 100MHz

6166	9322 149 96685	BZX384-C2V4
6302	4822 130 10654	BAT254
6310	4822 130 10654	BAT254
6311	4822 130 10654	BAT254
6354	9322 149 10685	BZM55-C33
6355	9322 149 10685	BZM55-C33
6356	9322 149 10685	BZM55-C33
6357	9322 149 10685	BZM55-C33
6365	9322 129 38685	BZM55-C6V8
6366	4822 130 83757	BAS216
6378	4822 130 83757	BAS216
6379	4822 130 83757	BAS216
6380	4822 130 11422	PLVA2650A
6388	4822 130 11422	PLVA2650A
6393	4822 130 11422	PLVA2650A
6399	4822 130 11422	PLVA2650A
6507	4822 130 83757	BAS216
6630	4822 130 10654	BAT254
6710	9322 149 10685	BZM55-C33
6711	9322 149 10685	BZM55-C33
6720	9322 149 10685	BZM55-C33
6721	9322 149 10685	BZM55-C33
6730	9322 149 10685	BZM55-C33
6731	9322 149 10685	BZM55-C33
6740	9322 149 10685	BZM55-C33
6741	9322 149 10685	BZM55-C33
6802	9340 260 20115	BAW56W
6805	9340 260 20115	BAW56W
6807	9340 260 20115	BAW56W
6820	4822 130 10654	BAT254
6900	9322 149 10685	BZM55-C33
6901	9322 149 10685	BZM55-C33
6902	9322 149 10685	BZM55-C33
6903	9322 149 10685	BZM55-C33
6904	4822 130 10654	BAT254
6905	4822 130 10654	BAT254
6906	9322 149 10685	BZM55-C33
6907	9322 149 10685	BZM55-C33
6908	9322 149 10685	BZM55-C33
6909	9322 149 10685	BZM55-C33
6910	9322 149 10685	BZM55-C33
6911	9322 149 10685	BZM55-C33
6912	9322 149 10685	BZM55-C33
6913	9322 149 10685	BZM55-C33
6914	9322 149 10685	BZM55-C33
6915	9322 149 10685	BZM55-C33
6916	4822 130 10654	BAT254
6918	9322 149 10685	BZM55-C33
6920	9322 149 10685	BZM55-C33
6921	9322 149 10685	BZM55-C33
6922	9322 149 10685	BZM55-C33
6923	9322 149 10685	BZM55-C33
6925	9322 149 10685	BZM55-C33

7007	5322 209 11598	PC74HCT4538T
7060	3198 010 42310	BC847BW
7065	3198 010 42310	BC847BW
7145	3198 010 42310	BC847BW
7148	3198 010 42310	BC847BW
7151	3198 010 42310	BC847BW
7154	3198 010 42310	BC847BW
7157	3198 010 42310	BC847BW
7160	3198 010 42310	BC847BW
7165	3198 010 42310	BC847BW
7170	9322 160 96671	AD9887KS-140
7175	4822 209 17239	LD1117DT33C
7303	4822 209 30212	PC74HCT125T
7308	3198 010 42310	BC847BW
7310	3198 010 42310	BC847BW
7311	9322 145 66668	TSH93ID

7315	3198 010 42310	BC847BW
7316	3198 010 42310	BC847BW
7318	3198 010 42310	BC847BW
7320	3198 010 42310	BC847BW
7321	3198 010 42310	BC847BW
7322	3198 010 42310	BC847BW
7323	3198 010 42310	BC847BW
7325	3198 010 42310	BC847BW
7326	3198 010 42310	BC847BW
7328	3198 010 42310	BC847BW
7340	4822 209 15765	74HC4052D
7341	3198 010 42310	BC847BW
7343	3198 010 42310	BC847BW
7352	9322 160 17668	ST202ECD
7360	3198 010 42310	BC847BW
7364	3198 010 42310	BC847BW
7370	4822 209 71585	74HCT4538N
7383	9352 684 81557	SAA5801H/015
7430	9322 156 81668	M24C32-WMN6TNKSA
7435	3198 010 42310	BC847BW
7500	9322 157 20668	MSM51V18165F-60J
7515	3198 010 42310	BC847BW
7516	5322 130 42756	BC857C
7517	9322 158 67685	ADM810TART
7530	4822 209 90188	PCF8591T
7540	5322 209 33172	PCF8574AT
7563	3198 010 42310	BC847BW
7570	9322 137 99668	FS6377-01
7574	9352 317 00118	74LVC125AD
7580	9322 156 81668	M24C32-WMN6TNKSA
7605	9322 158 73671	PW164-10R
7628	9322 164 75682	CY62126BVLL-70ZI
7631	3198 010 42310	BC847BW
7640	4822 209 16406	TL431ACD
7641	9322 157 95668	STD16NE06L
7655	9322 141 53682	EPC2LC20
7670	9322 159 45668	DS90C385MTD
7675	9340 547 13215	BSH103
7676	9340 547 13215	BSH103
7714	4822 209 30095	LM833D
7801	3198 010 42310	BC847BW
7802	3198 010 42310	BC847BW
7803	5322 130 42756	BC857C
7805	9340 547 13215	BSH103
7806	9340 547 13215	BSH103
7807	9340 547 13215	BSH103
7808	9340 547 13215	BSH103
7812	9322 167 63668	MSP3415G-QG-B8
7841	4822 209 30095	LM833D
7851	4822 209 30095	LM833D
7861	4822 209 30095	LM833D
7870	9322 167 76668	TC74HC590AF
7874	9322 167 76668	TC74HC590AF
7879	3198 010 42310	BC847BW
7880	9322 153 66668	CY7C199-15ZC
7881	9351 869 80118	74HCT573DB
7882	9351 869 80118	74HCT573DB
7900	5322 209 71568	PC74HCT14T
7904	9322 046 99668	ST24FC21M6
7907	9322 046 99668	ST24FC21M6
7910	4822 209 30212	PC74HCT125T
7915	3198 010 42310	BC847BW
7915	9340 217 70115	BC847BW

11. Revision List

First release